

Crossing the Finish Line:  
Career Adaptability and its Relationship to Athletic Identity,  
Academic Motivation, and Role Conflict for Division I Student-Athletes

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## **Abstract**

The responsibilities of being a Division I student-athlete often leave little time for experiences outside of sport that are critical for their future careers. Many student-athletes have unrealistic expectations of competing in their sport after college, while others expend little effort exploring potential careers. This study examines how career adaptability, the skills and competencies necessary to navigate work responsibilities and transitions over one's lifespan, is related to athletic identity, academic motivation, and role conflict for student-athletes. The findings are based on data from a survey of 662 student-athletes at six Division I institutions and indicate that private (intrinsic) athletic identity, academic motivation, and role balance are positively associated with career adaptability. This study clarifies career development's relationship with athletic identity and supports academic motivation and role conflict as constructs influential to student-athletes' career development.

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## **Dedication**

To Joe, my partner always,  
and to Brady and Gavin, who brighten our days.

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## **Chapter 1: Introduction**

The prominence of intercollegiate athletics is a hallmark of U.S. higher education. For many of the nation's premier research universities, intercollegiate athletics is a central part of its institutional identity and often a reason for its public recognition. Student-athletes who compete at the Division I level experience considerable demands as they navigate the often-competing roles of being both a student and an athlete. It can be incredibly difficult to participate in practices, strength and conditioning, team meetings, and competitions across the country, while simultaneously attending class, studying, and completing homework assignments and group projects. The level of commitment required for each role may leave little time to engage in other academic and co-curricular experiences, such as research opportunities, career exploration, and student organizations. These experiences are often critical for students to develop the self-awareness, knowledge, and skills needed to transition successfully to a fulfilling career beyond college.

Many student-athletes at major athletic programs aspire to play professional sports. Although data from the National Collegiate Athletic Association (NCAA) indicate that fewer than two percent of student-athletes in sports other than men's ice hockey and baseball will compete in their sport beyond college (NCAA, 2017c), a high proportion of student-athletes aspire to play professional sports. Data from the NCAA (2015) indicate that 48.8 percent of male student-athletes and 18.2 percent of female student-athletes feel it is at least somewhat likely that they will be professional or Olympic athletes. In

addition, 64 percent of Division I Football Bowl Series players, 78 percent of men's ice hockey players, 73 percent of men's basketball players, and 47 percent of women's basketball players indicate that it is at least "somewhat likely" they will play professional sports (NCAA, 2015).

Some former student-athletes, such as Tony Jones, a standout basketball player at Purdue University, carefully plan for their life beyond sport. Years after graduating, Jones notes, "Knowing [my] basketball career would most likely end at the collegiate level, [I] worked hard to be ready for what came after" (Langley & Miller, 2014, par. 22). Jones further describes his actions, acknowledging, "the biggest thing I did was prepare myself for transitioning ... I knew I needed to prepare myself mentally and put together a plan" (par. 23). Discipline was critical to his competing in Division I basketball while majoring in aviation technology and completing his pilot's license. After receiving a master's degree and serving in the United States Air Force, he began as a pilot for American Airlines, eventually flying president-elect Barack Obama on his first flight to Washington, D.C.

Although academic and athletic obligations are considerable, some Division I student-athletes are able to manage both successfully. As Ali Watkins, a former rower at Temple University, notes: "I took full semesters every year, held down semester internships, wrote for the school paper and actually commuted to D.C. a few days a week through my senior year while still rowing. It was ridiculously tough, but worth it" (Block, 2015, par. 25). While managing 35 hours per week of practices as a journalism major, Watkins recognized that she needed several internships to be a competitive applicant

when she graduated. During her internship at McClatchy DC News, she was able to help break a national story about the Central Intelligence Agency's monitoring of Senate Intelligence Committee staff members' computers (Cronin, 2014). While internships helped establish her reputation in the field and obtain a position after graduation as a national security reporter for the Huffington Post, Watkins credits rowing as "the defining aspect of [her] education" (par. 24).

Not all student-athletes find such careers after college. Former University of Connecticut basketball player, Jonathan Mandeldove, states, "When I was a student, I looked too far ahead at the glitz and stars and glamour of the [National Basketball Association] instead of taking it one step at a time with school" (Christensen, 2012, para. 18). Although he knew there was help in the athletic department as he struggled academically, Mandeldove was asked to take an academic leave. Three classes short of graduation, he found it difficult to find a job without an undergraduate degree.

Even student-athletes with a degree encounter difficulty after college and intercollegiate athletics. Jon Gissinger, a former football player from the University of Missouri, found himself in temporary jobs after completing his undergraduate degree (Stark, 2011). Citing his lack of experience and time devoted to thinking about his future post-graduation, Gissinger notes "I can tell you I never thought about a job or anything until football was done ... a football player is not going to get a job over someone who worked and had internships ... my resume is right now is football" (para. 5, 7).

Similarly, Chris Davis, a 2011 graduate of Ohio University, completed his intercollegiate athletic career with a 3.6 grade point average and served as the captain of

his cross-country team (Stark, 2011). Equipped with the leadership, time management, and teamwork skills honed through intercollegiate athletic participation, Chris was shocked at his lack of success in securing employment post-graduation. These challenges are not unique to male student-athletes in the high-profile sports. Findings from Henderson's (2014) study indicate that Division I female student-athletes have difficulty transitioning to careers beyond athletics. Henderson notes that "all of the participants unanimously felt they did not have enough time to engage in the experiences they believed would have helped them develop professionally" (p. 20), and results suggest that student-athletes feel underprepared to transition beyond college. Although participants describe "value in their experiences as student-athletes ... they did not feel these experiences alone [were] enough for them to start a career outside of athletics" (p. 35), and note a lack of time to engage in activities to help in their career.

### **Background**

Recently, there has been much concern in the popular press and research community about the academic and personal development of intercollegiate student-athletes, particularly at the Division I level. Researchers' findings indicate that student-athletes have high levels of leadership, discipline, motivation, and self-esteem (Chu, 1989; Harris, 1993; Simons, Van Rhee, & Covington, 1999), and that sport participation fosters the development of qualities such as strong work ethic, commitment to community, time management skills, and the ability to work as part of a group (Paule & Gilson, 2010; Stansbury, 2004). Involvement in intercollegiate sports requires

dedication, focus, perseverance, and teamwork – skills that are transferable to academic, career, and social settings. Astin (1993) notes that intercollegiate athletic participation is linked to satisfaction with the overall college experience, and may also increase persistence in college, motivation to complete one's degree, and actual completion of the bachelor's degree. In addition, involvement in intercollegiate athletics has a positive influence on gains in students' internal locus of attribution for success during the first year of college (Pascarella, Edison, Hagedorn, Nora, & Terenzini, 1996). As Stone and Strange (1989) note, "opportunities for interaction, leadership, and development of skills are frequent experiences associated with athletic team membership" (p. 153). As well, Pascarella and Smart (1981) found that participation in intercollegiate athletics had a modest positive net effect on academic achievement.

Other research suggests that not all outcomes associated with intercollegiate athletics participation are of a positive nature. Those particularly at-risk for negative outcomes associated with intercollegiate athletic participation are males participating in high-profile sports, namely, football and basketball. Compared with male non-athletes, male football and basketball players have, on average, significantly lower levels of writing skills, reading comprehension, mathematics, and critical thinking (Pascarella, Bohr, Nora, & Terenzini, 1995; Pascarella, Truckenmiller, Nora, Terenzini, Edison, & Hagedorn, 1999). When comparing athletes' and non-athletes' critical thinking skills, researchers have found that athletes have, on average, lower critical thinking scores, particularly related to maturity, inquisitiveness, and open-mindedness (McBride & Reed, 1998). In addition, while student-athletes at the Division I level graduate at higher rates



than their non-athlete counterparts (Hosick, 2015; Pascarella & Terenzini, 2005), male football and basketball players graduate at lower rates than their non-athlete peers (NCAA, 2012a).

Several researchers have found that student-athletes experience lower levels of career development than their non-athlete peers (Blann, 1985; Kennedy & Dimick, 1987; Martens & Cox, 2000; McQuown Linnemeyer & Brown, 2010; Murphy, Petitpas, & Brewer, 1996; Rivas Quiñones, 2002; Smallman & Sowa, 1996; Sowa & Gressard, 1983). Many researchers attribute these findings of low levels of career development to students' commitment to their athletic identities (Kennedy & Dimick, 1987; Houle & Kluck, 2015; Murphy et al., 1996; Tyrance, Harris, & Post, 2013; Whipple, 2009). The conflict between student and athlete roles may be particularly pronounced in the Division I setting, because, at this level of competition, the athlete role is considerably dominant (Adler & Adler, 1987; Adler & Adler, 1991; Killea-Jones, 2005; Simons & Van Rhee, 2000). Much attention in the literature has been devoted to exploring the nature of the multiple roles that student-athletes experience, most notably the balance between academic and athletic identities and its effect on student-athletes' career development (Adler & Adler, 1991; Brown, Glatter-Fender, & Shelton, 2000; Finch, 2009; Hook, 2012; Mahoney, 2011).

Division I student-athletes are at particular risk for over-commitment to their athlete role at the expense of their student role. A lack of attention to the student role may lead to decreased participation in academic development and career planning activities, such as major exploration or researching alternative occupations. In addition, student-

athletes who are not motivated to succeed academically may be at higher risk of not completing their degrees and may be less likely to plan for careers beyond athletics. Given the high probability that a student-athlete will leave college seeking a career in something other than professional athletics, it is imperative that student-athletes be equipped with comparable career development skills and competencies as their non-athlete peers. Bensimon (2015) notes that there is a lack of data-informed decisions among intercollegiate athletic administrators, while Comeaux (2015) suggests that “such insights are critical for forging deeper and creating more authentically responsible intervention strategies for athletes” (p. xii). Understanding the variables that affect Division I student-athletes’ career development will assist institutions, athletic departments, and individuals who work directly with student-athletes to develop intentional programs and practices that effectively support their transition beyond athletics.

### **Research Question**

Approximately 98 percent of student-athletes will transition to a career path outside of professional sports, and research suggests that student-athletes have lower levels of career development than their non-athlete peers. Although significant resources exist in campus advising offices, career centers, and the athletic department to assist student-athletes in preparing for their career beyond college, student-athletes are less likely to engage in career planning and exploration activities.

This study explores relationships among career development, athletic identity, academic motivation, and role conflict for Division I student-athletes. To examine these relationships, this study uses a conceptual framework that incorporates career construction theory (Savickas, 2005). Specifically, career adaptability, which refers to the skills and competencies necessary to navigate the various work responsibilities and transitions over one's lifespan, is the variable of interest. Understanding the factors that influence student-athletes' career adaptability includes examining the effects of how strongly student-athletes identify as athletes, and how well student-athletes navigate the demands and tensions of their dual roles as student and athlete. As academic motivation can contribute to student-athletes' level of commitment to each of the academic and athletic identities, this construct may influence their future career options.

The research question that drives this study is: *How is career adaptability related to athletic identity, academic motivation, and role conflict for Division I student-athletes?*

Understanding the relationships among career development, athletic identity, academic motivation, and role conflict will provide critical insight for athletic department and career services staff when creating programs and interventions to facilitate student-athletes' successful transition beyond college.

### **Summary of the Dissertation**

This dissertation is organized into five chapters. Chapter One provides the background context for the importance of and the research question that drives this study. Next, Chapter Two offers an understanding of the Division I intercollegiate athletics

environment and reviews the empirical literature related to career development, identity development, academic motivation, and role conflict, in general and for student-athletes in particular. The methods used in this study are described in Chapter Three, including the conceptual framework and a detailed description of the variables, context, instrument, data collection procedures, and data analyses. Results related to the research question are presented in Chapter Four. Finally, Chapter Five discusses the findings in context, implications for theory, policy, and practice, as well as offers limitations of the study and directions for future research.

## **Chapter 2: Review of the Literature**

This section outlines existing literature about the career development of Division I intercollegiate student-athletes. First, I discuss the significance of the Division I athletics environment. Next, I present the evolution of career counseling theory and practice. Finally, I examine empirical research about the career development of student-athletes is introduced, as well as challenges that may affect student-athletes' career development. I identified three challenges in the literature: a) identity development and the potential to over-identify with the athletic self, b) student-athletes' academic motivation and its effect on academic performance, and c) the multiple roles that student-athletes must balance. I present these key areas, as well as the intersections among them, in the remainder of this chapter.

### **The Transformation of Intercollegiate Athletics**

Although much has changed since the first intercollegiate athletic contest in 1852, a boat race between Yale University and Harvard University (Rooney, 1987), the history of intercollegiate sport details aspects of corruption, corporate influence, commercialism and ineligible students from its beginning (Eitzen, 2012). Early intercollegiate football games included players without any connection to either institution. By 1929, the Carnegie Foundation found that commercialization was a critical challenge for intercollegiate sport (as cited in Thelin, 1994). Little has changed today as criticism about the commercialism of intercollegiate athletics, seemingly at the expense of the academic

experience of student-athletes, is widespread among higher education administrators, faculty, and the public.

While commercialism, recruiting violations, and gambling scandals have been prevalent throughout its history, television radically transformed intercollegiate athletics into an industry that produces billions of dollars annually (Eitzen, 2012). In 2015, approximately \$15 billion was spent on intercollegiate athletics (United States Department of Education, 2017), and over 92 million people attended Division I football and basketball games (NCAA, 2017d). In 2014-2015, 21 academic institutions spent over \$100 million on intercollegiate athletics (USA Today Sports, 2016). Success in intercollegiate athletics has moved from winning seasons and graduating student-athletes to include expectations of extensive media coverage, consecutive post-season play appearances, merchandise sales, and capacity-filled stadiums.

The development of college athletics into a multi-million dollar, nationally recognized entity has changed the way athletic departments conduct business. While the majority of the 4,000 academic institutions that offer intercollegiate athletics do not experience the same notoriety as those that offer “big-time college sports” programs, “the [Division I] football and basketball teams representing several hundred universities achieve such high levels of revenue and visibility that their universities in effect become part of the American entertainment industry” (Clotfelter, 2011, p. 6). As former University of Michigan president, James Duderstadt (2000), notes, “college sports attract more public visibility than any other university activity, with hundreds of thousands of

spectators attending our athletic events and millions more watching on television across the nation” (p. 8).

Although they may have nationally recognized athletic programs, most institutions engaging in big-time college sports are not “jock schools.” Many are among the top research universities in the United States and the world. Three of the nation’s top public universities, the University of California, Berkeley (\$94 million), the University of California, Los Angeles (\$97 million), and the University of Michigan (\$151 million), rank within the top 30 institutions by intercollegiate athletics expenditures (USA Today Sports, 2016). Almost all of institutions in the top 50 expenditures for college sports are major research universities, known for their academic quality and research accomplishments, and many are members of the elite Association of American Universities.

### **The Academic Experience of Division I Student-Athletes**

For Division I institutions, the pressure to succeed both on the field and financially is enormous. Clotfelter (2011) notes that “central to the ability to win is recruiting high-value athletes” (p. 21). As a result of these pressures, the number and scope of academic scandals and recruiting infractions have increased. The media has detailed countless examples of institutions that have admitted students with superior athletic abilities and questionable academic profiles, academic integrity violations that have helped student-athletes remain eligible to compete, and academic major clustering among student-athletes. Some student-athletes may be focused on competing in their

sport with little interest in obtaining an undergraduate degree. Further, as student athletes “represent a special population of students with unique challenges and needs different from their nonathlete peers” (Gayles, 2009, p. 33), and I explore several of these challenges in this section.

At most institutions, particularly at those with big-time college sports, there is often a marked difference in the academic qualifications of the student-athlete population and the non-athlete student body. While elite institutions, such as the University of Michigan, purport a “continued practice of admitting only those students with a reasonable probability of academic success” (Duderstadt, 2000, p. 49), the reality remains that many recruited student-athletes’ academic preparation backgrounds are significantly lower than the non-athlete student body at their institutions (Shulman & Bowen, 2001). As a result, some of the student-athletes admitted to top-tier research institutions begin their collegiate careers with a distinct academic disadvantage when compared to their non-athlete peers. This disadvantage may be difficult to overcome when combined with the demands of their academic coursework and sport participation, and the exacerbated expectations of the Division I environment.

Ensuring that student-athletes remain eligible to compete can be equally challenging. The NCAA mandates specific criteria for student-athletes to be able to receive a scholarship, practice, and participate in competition. While a wide range of academic support services are provided for student-athletes, such as priority registration, tutoring, specialized advising, and learning specialist coaches, many student-athletes struggle in the classroom. The intense emphasis on sports may also have a negative



impact on student-athletes' grades (Maloney & McCormick, 1993). Former associate athletics director for academic affairs at the University of Oklahoma, Gerald Gurney, notes "many student-athletes will choose the path of least resistance — less competitive majors — so they can maintain their eligibility"(Lederman, 2003).

At the Division I level, the time constraints for student-athletes are the most demanding. In the eyes of many coaches and athletes, the athletic role supersedes the student role (Eitzen, 2012). In their study about the influence of mentors for high-achieving African American male student-athletes, Martin, Harrison, and Bukstein (2010) found inconsistency between the actions and the rhetoric from the coaching about the importance of excelling academically. As one student-athlete at Stanford explains, "After the game, I remember my position coach singling me out, saying that if I spent as much time in the film room and lifting weights as I did studying biology, I would be a damn good football player" (p. 288). In contrast, Gragg and Flowers (2014) found that many coaches support academics through both words and actions, though much of their active support dwindles after the athletic season begins. Student-athletes are often left to manage their academic demands until their performance declines or creates conflicts with their athletic obligations. In addition, athletic scholarships are dependent upon athletic performance. Singer and Armstrong (2001) note that support from coaches is one of the most significant influences for student-athletes' academic success.

To refocus attention towards degree completion and improve academic performance within intercollegiate athletics, the NCAA enacted the Academic Progress Report (APR), a progress-towards-degree policy. To be eligible to compete, student-

athletes must complete 40 percent of their degree-program requirements at the start of their third year, 60 percent by the fourth year, and 80 percent by their fifth year. This policy represents a dramatic shift, as, previously, student-athletes could take any combination of classes to be eligible as long as they achieved a minimal GPA standard across a required number of credits. The APR is publically available by institution and sport, and institutions are punished competitively and financially if their student-athletes and teams do not meet appropriate progress to degree levels. In 2013, the men's basketball team at University of Connecticut was the first major institution to be ruled ineligible for post-season play as result of its low APR score. Nine other institutions were also ruled ineligible that same year. Although this practice establishes high stakes for institutions who do not focus on the academic progress of its student-athletes, Van Rheenen (2015) notes:

“those institutions that have been able to invest most in academic support services for athletes have often fared best in APR scores. Conversely, low-resource institutions, most commonly historically black colleges, have been far less successful at meeting the APR expectations set by the NCAA.” (p. 357-58)

For the 2016-2017 academic year, 23 men's and women's teams were banned from post-season play by the NCAA. Except for the Virginia Military Institute's men's track team, all teams were at Historically Black Colleges and Universities (HBCU) (Jackson, 2016).

While the NCAA has earmarked some funding to assist low-resources schools with improving their APR and graduation rates, racial inequities are prominent in intercollegiate athletics. In a landmark analysis, Harper, Williams, and Blackman (2013)

found that at the institutions in the top six Division I athletic conferences, 50.2 percent of black male student-athletes graduated within six years, compared to 66.9 percent of student-athletes, and 72.8 percent of undergraduate students. Black student-athletes also graduate at lower rates than black undergraduate males at these institutions. While black men represent 2.8 percent of full-time, degree-seeking students at these institutions, 57 percent of football players and 64 percent of basketball players are black males. Black male student-athletes continue to be a population of particular interest and Harper et al.'s (2013) report provides a greater awareness of the “actual extent to which college sports persistently disadvantage black male student-athletes” (p. 1).

Although there has long been concern that student-athletes often are not focused on academics and may be directed towards “easy” majors and classes, one of the unintended consequences of the APR policy has been an “enhanced propensity to cluster athletes into ‘athletic friendly majors’” (Calhoun, 2012, p. 10). Some argue that the APR policy increases the pressure for institutions to lead student-athletes to majors in which they are more likely to succeed (Capriccioso, 2006). Numerous articles in the popular press (Hittle, 2012; Lederman, 2003; Suggs, 2003; Wolverton, 2008) have detailed the academic major clustering phenomenon that is common within intercollegiate athletic programs, and several empirical research studies have emerged (Calhoun, 2012; Fountain & Finley, 2009; Schneider, Ross & Fisher, 2010). “Academic clustering” refers to when 25 percent or more student-athletes on one team have the same major (Case, Greer, & Brown, 1987).

Whether this phenomenon is a “problem” is unknown; although student-athletes are often overrepresented in certain majors at an institution, there are a variety of explanations for why the phenomenon exists. For example, student-athletes may choose a major for the following reasons: a desire for a major in which they can succeed academically; wanting to take classes with peers or teammates; or seeking a major that offers flexible scheduling or degree requirements, and minimizes outside requirements, such as internships or research projects. In addition, academically clustered majors may align with career or personal interests, such as communication studies for a future in sports reporting or broadcasting, or African-American studies for African-American students who want to learn more about their history or salient identity. Competitive majors might not be available to some student-athletes because of their academic preparation or performance. Many of the reasons for why student-athletes may choose a clustered major are reasons similar as to why non-athletes might choose their major.

The obligations of being a student-athlete make it challenging to succeed equally on the field and in the classroom and the Division I athletic environment is structured in a way that exacerbates these challenges. Eitzen (2012) notes that the athletic subculture can “work against the student role” (p. 180). For example, television coverage of athletic contests is determined by the broadcasting networks and is rarely scheduled in a way that minimizes disruption to the academic obligations of student-athletes. College basketball and football games are routinely broadcast during the week, which often involves missing at least a day and a half of classes. The University of Oregon basketball team may play a game in North Carolina on Wednesday and catch a chartered flight home immediately

after the game. Although the flight may arrive at 1:00 a.m. and involve significant travel across time zones, players are expected to function in class the next morning, as well as practice later in the day. Teams who advance to the finals of the NCAA basketball championship tournament rarely attend class in March during the month-long, six-game tournament. Even the Ivy League has begun to change some of its practices to increase revenue and exposure of its sports. The league recently hired a marketing firm, hosted its first sponsored conference basketball tournament, and moved from its traditional Saturday-only football schedule to include Friday nights for a television network deal (Novy-Williams, 2017).

Some of the factors facing student-athletes include physical exhaustion, media attention, mental fatigue, demanding coaches, and time constraints (Eitzen, 2012). Hainline (2014) noted that one of the primary health and safety concerns for student-athletes is mental health and wellness. In addition, while about 60 percent of Division I student-athletes feel confident about their ability to keep up in school while in season, mental health concerns are increasing among student-athletes, as approximately 30 percent responded that they had been “intractably overwhelmed” within the past month (NCAA, 2015). Student-athletes who report struggling with mental health conditions such as depression or anxiety are more likely to engage in substance use and indicate that their conditions negatively influence their academic work (Kearns Davoren, 2017). While research indicates that student-athletes get about as much sleep as typical college students (NCAA, 2015), this is an alarming trend given the needed physical demands of high-level sport participation and need for recovery time.

In the NCAA's 2015 GOALS study, the median time spent on athletics for Division I student-athletes was 34 hours per week, even though NCAA regulations set a maximum of 20 hours per week of required attendance at athletic competition and training. The greatest amount of time spent on sports was by men's football players, who spent about 42 hours per week. The median amount of time spent on academics was 38.5 hours per week. These time commitments, as well as attending classes, completing homework assignments, and studying, all while traveling to competitions out of state often require a commitment beyond that of a full-time job. Female student-athletes indicate more time spent on academics than do males, while 66 percent of female and 59 percent of male student-athletes would prefer to spend more time on academics. The amount of time spent on athletics and academics has increased since the 2010 GOALS study, as student-athletes have decreased the amount of time they spend relaxing and with friends and family.

Although there is much concern about the academic achievements of Division I student-athletes, many student-athletes are outstanding students. Over 90 percent of student-athletes expect to earn their degree within four years and approximately 98 percent have family expectations of graduating from college (NCAA, 2015). Over 43 percent of Division I student-athletes expect to attend graduate school after they complete their undergraduate degree (NCAA, 2015). Many student-athletes prioritize academics, such as Jon Christensen, a walk-on football player who earned a starting position and athletic scholarship. While at the University of Minnesota, Christensen earned his degree in biochemistry before his eligibility expired. He enrolled in a master's program in public

health, had a research position in a cancer lab, married, and was a semi-finalist an award that honors the top football student-athlete in the nation. Christensen's situation, while exemplary, is not unique.

Many athletic teams achieve similar excellence in academics as they do in their sport. The 2016 national championship teams in men's basketball (Villanova), women's basketball (University of Connecticut), and women's soccer (University of Southern California) all had APRs of 993 (out of 1000) or above (NCAA, 2017a). In addition, the 2017 men's football champion (Clemson) had an APR of 983. Since 2002, the NCAA-calculated Graduation Success Rate (GSR) has increased by 12 percent. While the improvement in degree progress and graduation rates are celebrated as successful academic reforms, many academic athletic administrators express concern that student-athletes now have less time for exploration than their non-athlete peers. In addition, the requirements can be burdensome for student-athletes with strong academic backgrounds who wish to double-major or are able to manage the demands on their own. As Derek Van Rheenen (2015), director of the Academic Study Center for student-athletes at the University of California, Berkeley, notes: "For many athletes, this hypermonitoring of their academic and degree progress feels patronizing" (p. 362).

Questions arise as to whether student-athletes can participate in activities beyond their sport. While data from the National Survey of Student Engagement found that student-athletes did not differ from their non-athlete peers on involvement in educational activities (Umbach, Palmer, Kuh & Hannah, 2006), there were differences among involvement between student-athletes at different levels of competition. Student-athletes

at the Division I and II levels were less engaged when compared to those at the Division III level. Eitzen (2000) referred what the student-athlete in big-time college sports encounters as a “diluted educational experience.” Even in the lower-profile or non-revenue sports, such as swimming, track and field or golf, Division I student-athletes often detail how they are rarely able to be involved or discouraged to participate in activities beyond their academic work and sport (Martin, Harrison, & Bukstein, 2010; Paule & Gilson, 2010).

Student-athletes are often isolated from the campus environment. Although many athletic departments locate their academic support services near training facilities, these buildings are often a considerable distance from the heart of campus life, physically isolating student-athletes. First-year student-athletes are often required to study in these locations which limits their contact with non-athlete peers. This social isolation can have negative effects on their social and academic integration (Hyatt, 2003). In addition, faculty often have negative perceptions of student-athletes (Jolly, 2008) and are not always accommodating when student-athletes need to reschedule exams or in-class activities for their university-approved, athletic travel schedule. Student-athletes are also less likely to seek outside assistance to cope with these multiple demands. Watson (2005) argues that “student-athletes may feel uncomfortable seeking help outside of the athletic department from service providers who may not understand special concerns, needs, and pressures faced by student-athletes” (p. 447).

Other research has indicated positive outcomes from intercollegiate participation. Using data from the NCAA’s Basic Academic Skills Study, intended to measure the



attitudes, interests, and academic skills of student-athletes, Gayles & Hu (2009) examined cognitive and affective outcomes for student-athletes. The researchers found that gender, sport profile, and interactions with students were significant predictors of self-concept, and, specifically, that female, low-profile athletes, and athletes who interact more with nonathletic students, have higher levels of personal self-concept. Academic major, participating in academic-related activities, and interacting with students other than teammates also appear to predict learning and communication skills. Student-athletes who major in social and behavioral sciences, math, and science interact more with students other than teammates, and have greater gains in learning and communication skills, and participate more in academic-related activities.

For most college students, the “student” role is their main priority; however, for student-athletes, both the “student” and “athlete” roles require a significant commitment. The investment in these multiple roles is especially apparent for those at big-time college sport schools. As Eitzen (2012) suggests, “athletes in these commercialized, professionalized programs have trouble reconciling the roles associated with their dual status of athlete and student” (p. 158). Tyrance (2010) also notes:

“the amount of skill, training and dedication that it takes to compete at the [highest] level is extraordinary; however, student-athletes who compete in revenue-producing sports have the added enticement of professional sports that can impact their athletic identity and career development.” (p. 74)

Pearson and Petitpas (1990) observe that “many athletes have been able to adjust to their transition out of sport by learning about or working in another career while still

competing” (p. 7). Some student-athletes will immediately undertake a clear path, such as Marybeth Hall, a swimmer at Northwestern University, who began medical school after she obtained her degree (Schneider & Cooper, 2013). Others, like her teammate, Taylor Reynolds, have no clear plans: “I’m taking things as they come, which is kind of nice” (Schneider, 2013, par. 15). The multiple roles may affect whether student-athletes participate in other experiences that are essential to their success beyond college, so it is imperative that institutions identify strategies to prepare student-athletes to transition successfully to a fulfilling career. Comeaux and Harrison (2011) assert that “the failure to fully understand the distinct experiences of college student-athletes can have a significant impact on the extent to which we understand the need for specific forms of campus assistance and can affect questions of policy in higher education” (p. 235).

### **Career Development Theory**

Within American society, work occupies particular significance. An individual’s livelihood is often tied to the financial stability provided by employment, and many employees today seek to engage in work that is both economically rewarding and personally fulfilling. Sharf (2006) notes that “being satisfied with one’s career is one of the most important aspects of an individual’s personal happiness” (p. 1). For today’s youth, it is easy to become overwhelmed by the multitude of occupational choices available. Even more challenging is the rapidly changing workplace in which industries and occupations are constantly evolving: some of today’s jobs, such as “app developer” and “social media expert,” did not exist ten years ago.

Crites (1978) describes career development as the creation of realistic and mature career plans based on one's goals, interests, aptitude and awareness of vocational requirements and options. To develop mature career plans, Crites observes that individuals must engage in self-exploration to identify available career options. An individual's career development is not confined to a particular period of time; rather, career concerns are present throughout one's lifetime. As such, it is critical that individuals are equipped with the knowledge and skills necessary to explore and commit to appropriate careers over their lifetime. For many, the college experience provides an opportunity to engage in activities that develop the self-awareness, knowledge, and skills required to successfully transition to the world of work. For Division I student-athletes, however, there is considerable concern that they do not gain these skills and awareness because of the intense demands of intercollegiate sport participation. Despite the resources and programming available through individual athletic departments and the NCAA, Tyrance et al. (2013) notes that "college student-athletes continue to over-identify with the athletic role and have an unhealthy expectation of extending their playing careers beyond the collegiate level" (p. 9-10). Given the high probability that a Division I student-athlete will need to choose an alternative career path, particular attention to student-athletes' career development is necessary.

In 1909, Frank Parsons' presented a three-part model of vocation that marked the beginning of the career development field. In this early work, Parson proposed a "wise choice" of vocation depended upon three factors:

“(1) a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations, and their causes; (2) a knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work; (3) true reasoning of the relations of these two groups of facts.” (Parsons, 2010, p. 5)

Parson’s trait-and-factor model established the structural theory domain of career development, which has expanded over time to include John Holland’s (1985) work about vocational personalities and environments, and Dawis and Lofquists’s theory of work adjustment (Hartung & Niles, 2000).

Another perspective emerged in the career development field, namely the developmental or life-span approach. The developmental approach involves “examining and promoting progress through various career and life stages ... [and] focuses on increasing students’ career development attitudes and knowledge and their satisfaction with their life roles” (Hartung & Niles, 2000, p. 6). As a lifelong process, individuals continue to develop and shape their career and occupational choices throughout life. Early work in the developmental domain includes Ginzberg, Ginsburg, Axelrad, and Herma’s (1951) adolescent career-development model. Ginzberg et al. suggest three distinct periods in the adolescent career-choice process: the fantasy stage, tentative stage, and the realistic stage. The fantasy stage, which typically occurs up to age eleven, involves imagination and thinking about or acting out future work through play. From about 11 to 17 years of age, adolescents transition through the tentative stage, which involves recognizing one’s interest, abilities, and values, as well as expanding one’s

understanding of work. Given today's highly structured lives and often extreme parental involvement, it seems likely that there is less active involvement in exploration during this stage for adolescents.

In addition, Ginzberg et al.'s (1951) final stage for adolescent career development, the realistic stage, occurs after 17 years of age and involves specifying and refining occupational choice. Although previously arguing that vocational choices were irreversible, Ginzberg (1984) acknowledged career development as a lifelong process that can be fluid over time, noting however, that subsequent changes in career paths can have many implications, some of which may be negative. In addition, Ginzberg regarded the career development process as one of optimization – weighing one's needs and interests against the constraints and opportunities available. This pragmatic perspective of optimization is often lost in the prominent encouragement of “simply follow your passion” that is common today.

In 1957, Super expanded Ginzberg et al.'s (1951) work, noting a failure to consider the existing body of educational and vocational development (Osipow & Fitzgerald, 1996). Describing this approach as “developmental, differential, social and phenomenological psychology . . . held together by self-concept or personal-construct theory” (Super, 1990, p. 194), Super's model consists of three key segments: self-concept, life span, and life space (Hartung & Niles, 2000). Life span refers to the chronology from birth to death, whereas life space consists of the specific roles a person plays at given points throughout the life span (Hartung & Niles). Of note in the model was the consideration of the changes in an individual's self-concept that occur with

experience and over time. Drawing upon Erikson's (1968) psychosocial development model, Super introduced the concept of "roles" to illustrate aspects of careers that occur during one's lifetime (Finch, 2007). Super, Thompson, and Lindeman (1988) suggest that different values emerge and change in importance throughout the life span. Given the changes of occupational preferences and competencies over time, an individual's self-concept also changes.

Super (1957) identifies five stages for career development: (1) growth, (2), exploration, (3) establishment, (4) maintenance, and (5) decline. Within each of these stages, there are developmental tasks and issues to resolve. During the growth stage, children four to 14 learn about and build emerging self-concepts through their identification with significant others. As in Ginzberg et al.'s (1951) work, this stage is dominated by play, curiosity, and fantasy. Exploration, the second stage, is one in which adolescents and young adults (typically 15 to 24 years of age) attempt to implement their self-concepts in employment and related occupational activities (Hartung & Niles, 2000). Three developmental tasks characterize this stage: crystallizing a career preference, specifying an occupational choice, and implementing that choice. The desired outcomes for this stage are educational and vocational choices that reflect one's occupational self-concept and vocational identity (Super, Savickas, & Super, 1996). Moving through this stage often requires active engagement in career exploration activities, as adolescents and young adults may experience challenges in refining values, interests, and skills, and applying these concepts to occupational possibilities and choices.

In the third stage of Super's model (1957), establishment, the goal is for individuals to achieve some permanence in their chosen professions. Individuals in this stage are typically between the ages of 25 and 44 years of age. The developmental tasks involve: stabilizing in a position or profession, consolidating the position through understanding and adjusting to the expectations of the position, and finally advancing for those who seek to achieve higher positions. Maintenance, the fourth stage, is characterized by a choice of whether to stay in a current position or field, or reestablish oneself in a new area. Adults between the ages of 45 and 65 may hold their position, or update their skill set to move to another field or position. The final stage, disengagement, is when adults begin to decelerate their work activities, with the focus towards retirement and postoccupational life. It is important to note that individuals may progress through these stages at various rates, particularly as their self-concept and role salience changes over time. Hartung and Niles (2000) noted that people "cycle through various stages of development in a linear progression, and they often revisit [earlier] career stages in [different] ways throughout their lives" (p. 12).

In addition to progressing through the stages of the life-span career development models previously presented, individuals can develop vocational or career maturity. Career maturity is comprised of: career planning, career exploration, decision making, world-of-work information, and knowledge of the preferred occupational group (Super et al., 1971). Drawing upon Super's work, Crites (1978), a student of Super, describes four constructs that form an individual's career maturity: consistency of career choices, realism of career choices, career choices competencies, and career choice attitudes.

Subsequently, Savickas (1997) argues that career adaptability, the ability to cope with changing work and work conditions, was a more appropriate construct to utilize than career maturity. Career adaptability better explains “a continual need to respond to new circumstances and novel situations, rather than to master a predictable and linear continuum of developmental tasks” (Savickas, 1997, p. 254). Savickas’ (2005) career construction theory (CCT) is designed to more accurately describe how individuals impose meaning and direction on their vocational behavior in the current and rapidly changing world of work. Rather than choosing an occupation in adolescence that one will engage in for a lifetime, today’s worker typically has multiple jobs and often across many distinct occupational environments, some positions which did not exist five years earlier. In previous models of career development, theoretical frameworks and career counselors’ practice often focused on assisting an individual in the process of committing to a particular occupation or vocation.

Building upon Super’s (1957) work, career construction theory is a contemporary interpretation of how people make career paths in the 21<sup>st</sup> century (Savickas, 2005). CCT views career development as a dynamic, rather than segmented, process of change, wherein careers do not simply unfold, but rather, are “constructed as individuals make choices that express their self-concepts and substantiate their goals in the social reality of work roles” (p. 43). How one prepares for and chooses career opportunities is not through neatly defined stages. Rather, individuals consider their abilities, needs, values, and interests as they create career identities that are fluid through their lives, adapting to environmental factors.



Today, individuals often have multiple career changes or follow paths that are somewhat connected. An individual may leave a corporate job to return to school to become a teacher, or perhaps receive a promotion to oversee a different functional area than the individual's immediate experience. To be successful in the new opportunity, individuals must develop new competencies, as well as translate their existing skill set to the new role and work environment. CCT incorporates three themes from previous career theory into a single, holistic theory: individual trait differences, developmental tasks and coping strategies, and psychodynamic motivation (Savickas, 2005). Individuals are continually constructing their career identities as they make choices that express their self-concept goals within social contexts.

Savickas and Portfeli (2012) describe career adaptability resources as psychosocial constructs that “are the self-regulation strengths or capacities that a person may draw upon to solve the unfamiliar, complex, and ill-defined problems presented by developmental vocational tasks, occupational transitions, and work traumas” (p. 662). As such, these resources are dynamic and easier to adjust than traits, and help form coping strategies to manage the complex and ever-changing world of work, whether a new position, failure at work, new supervisor, or a need for a career change to manage physical demands or personal responsibilities. Providing a framework to examine vocational behavior, CCT is comprised of three central components: uncovering personal life themes, understanding one's vocational personality and interests, and career adaptability (Savickas, 2005). Savickas describes four dimensions of a career adaptability: *concern* for the future, increasing personal *control* over one's future work,

being *curious* and actively engaging in exploration, and *confidence* to work towards those goals.

### **Career Development and Student-Athletes**

For many stakeholders, such as families and the public, a college degree signals the start of an expectation for young adults to engage in financially stable, long-term career-oriented employment. As noted in Super's (1957) theory, exploration in the adolescence and young-adult years is critical to making occupational choices and commitments. The college years provide an ideal time to engage actively in the career-exploration process. Many researchers, however, have found that student-athletes have lower levels of career development than their non-athlete peers and are less likely to have participated in career planning activities (Blann, 1985; Kennedy & Dimick, 1987; Martens & Cox, 2000; McQuown Linnemeyer & Brown, 2010; Murphy et al., 1996; Rivas Quiñones, 2002; Smallman & Sowa, 1996; Sowa & Gressard, 1983). A substantial proportion of student-athletes aspire to play at the professional level, even though the probability is remote. Martens and Lee (1998) argue that "varsity student-athletes, especially at large Division I universities, may not dedicate much thought or effort to developing a career path" (p. 123). Hill (1993) posited that student-athletes often consider a limited number of career options because they lack role models in professions other than sports.

In 1985, Blann compared the ability to formulate educational and career plans for Division I and Division III students-athletes. Findings indicate that Division I student-

athletes scored significantly lower on educational and career planning than those at the Division III (non-athletic scholarship) level. Similarly, Sowa and Gressard (1983) utilized the Student Developmental Task Inventory to explore the relationship between career development and intercollegiate athletic participation and found that student-athletes scored significantly lower than non-athletes in their progress toward achieving career plans. The researchers note that “athletes have difficulty in formulating well-defined educational goals and gaining personal satisfaction from educational experiences” (p. 238).

In addition, Martens and Cox (2000) found significant differences between student-athletes and non-athletes using Holland, Daiger, and Power’s (1980) framework, as student-athletes’ career development scores were significantly lower. Also, in several other studies, finding indicate that male student-athletes have lower levels of career maturity than male non-athletes (Kennedy & Dimick, 1987; Murphy et al., 1996; Rivas Quiñones, 2002).

Utilizing Super’s (1957) developmental framework of career development, Smallman and Sowa (1996) measured the differences among career-maturity levels of revenue and Olympic sport Division I student-athletes by sport and race/ethnicity. Employing the Career Developmental Inventory (CDI) (Super, Thompson, Lindeman, Jordaan & Myers, 1981) as the career measure, the researchers found no significant differences in the career maturity scores of student-athletes by sport or racial background. Similarly, Martens and Cox’s (2000) study found no differences in the career development measures by sport. When compared to the norm group of general college

students, however, student-athletes' career maturity were in the bottom twenty-fifth percentile, indicating that student-athletes had low levels of career maturity. There were significant differences in occupational knowledge, as "Caucasian student-athletes reported significantly greater knowledge of their preferred occupations than did [student-athletes of color]" (p. 274).

In another study using the CDI as a measure of career development, Brown and Hartley (1998) found that student-athletes who had high expectations of playing professional sports scored significantly lower on career development measures than did those student-athletes who had non-sport career aspirations. In this study, an unusually low number of student-athletes (19 percent) planned a professional sport career. In another study, time spent participating in sport was inversely related to levels of self-efficacy for career decision-making tasks (Brown et al., 2000).

In 2010, McQuown Linnemeyer and Brown conducted a comparison study of career maturity, identity foreclosure, and career foreclosure for Division I student-athletes, fine arts students, and general college students. Postulating that student-athletes and fine arts students are populations with similar characteristics, the researchers hypothesized that both groups would score similarly on the foreclosure measures and career maturity, and have lower levels of career maturity and higher foreclosure levels than general students. Results indicate that student-athletes have greater levels of identity foreclosure than do fine arts students and general college students. No significant differences for career foreclosure exist among the groups, although student-athletes have significantly lower career maturity attitudes than general students. The authors note that,

although differences were found, the differences were surprisingly low. One possible explanation for the minimal difference was the low percentage (11 percent) of revenue student-athletes participating in the study. In addition, the authors suggest that previously documented gaps in career maturity between student-athletes and non-athletes may be lessening because of the increase in support services for student-athletes.

Navarro's (2014) recent qualitative work provides a conceptual model for Division I student-athletes' career exploration, choice, and preparation. Using Savickas' career construction theory, Navarro interviewed student-athletes from a single institution to understand their most salient life experiences as they chose their undergraduate majors and connected their major to the future career plans. In this constructivist approach, 29 student-athletes who were in their last year of school, and had completed a mandatory career strategies capstone course, participated in a 75-minute semi-structured interview. Several influential career exploration themes emerged: observing vocations of and discussions with family members or mentors, idealistic/childhood dreams, and identifying a personal passion. Student-athletes who referenced the influence of mentors and non-family members tended to be first generation college students. Findings suggest that career exploration and major selection is constructed as a synonymous process and that student-athletes consider "undergraduate major selection as an initial commitment to a career path" (p. 229). Some student-athletes choose their major as preparation for a particular career path while others choose their major primarily to maintain athletics eligibility.

In addition, athletics factors, academics factors, parent/family, and personal passion are influential to the career choice process of student-athletes (Navarro, 2014). The athletic themes include the athletic advisor, teammates, coaches, and time constraints, highlighting how “student-athletes rely heavily on life experiences internal to the athletics environment when making career decisions” (p. 229). The academic themes influential to career choice include considering one’s academic skill set/grade point average, professors and coursework, and the academic advisor. An additional observation from the study is that student-athletes who reference academic influences for their career choice tend to align their career choice with their academic strengths.

Student-athletes also indicated which experiences shape their career preparation (Navarro, 2014). Of particular importance was the required career course from the athletic department, which included other influential activities such as interviewing skills and resume and cover letter preparation. Student-athletes also discussed how networking opportunities, practicums and internships, and being a student-athlete help to shape their career preparation. Conclusions from this study indicate that Savickas’ career construction theory applies to student-athletes – student-athletes see their career exploration, choice, and preparation process as fluid and evolving. Navarro does caution that because of NCAA eligibility regulations, “career exploration and choice typically conclude very early during the college experience for student-athletes” and that although student-athletes view preparation for life beyond sport as a dynamic process, they “found [life preparation] to be of heightened focus during the senior year as they approached the transition” (p. 232).

Although previous research suggests that student-athletes have lower levels of career development when compared to non-athletes, McQuown Linnemeyer and Brown (2010)'s work may be a signal that this gap is decreasing. The timing of this study was several years after the NCAA mandate for student-athlete support and those initiatives might be effectively addressing the gap. The empirical research introduced in this section provides evidence of a gap between the career development levels of student-athletes and their non-athlete peers. In addition, Navarro's (2014) work affirms the use of career construction theory to understand how Division I student-athletes explore, chose, and prepare for their futures beyond college. In the remainder of this chapter, I review how athletic identity development, academic motivation and performance, and navigating the demands of the student and athlete roles affect student-athletes and possible connections to career development.

### **Athletic Identity Development**

The development of an integrated sense of self is often a fundamental task of the college experience. Chickering and Reisser (1993) argue that "establishing identity certainly involves growing awareness of competencies, emotions and values, confidence in standing alone and bonding with others, and moving beyond intolerance toward openness and self-esteem" (p. 173). Through the process of developing one's identity, one is able to experiment with new roles and question those previously held. The combination of feedback from others and a new level of self-awareness further assist in this process. For traditional-age students, college is often a time when they make great

strides in developing independence. Learning to live on their own, taking responsibility for their decisions, and becoming an independent adult are a part of this process. Through self-discovery, one is able to gain a deeper understanding of who one is and what one values. College offers a wide range of experiences that can serve to foster this discovery. Identity is an important outcome as it gives one a framework from which to view one's self and the surrounding world, and base decisions. As noted earlier in this paper, identifying one's values, interests, skills, preferences, and beliefs are a significant part of the career development process.

Tracing its early beginnings to the work of Mead (1934), identity development occurs through a dynamic process of creating meaning through interactions in one's social world. Cooley (1902/1983) introduced the concept of the looking glass self, by which one imagines how others view oneself and envisions how that appearance is judged by others. Based on these perceived judgments by others, one's self-concept is constructed. Thomas (1923/1980) wrote that the context of a social situation plays a role in self-concept development, and, consequently, behavioral expectations emerge for both the individual and others with whom one interacts.

Erik Erikson's (1968) theory of psychosocial development utilizes a lifespan approach, wherein an individual moves through eight phases in the formation of personality. During these phases, individuals encounter and resolve a series of crises to arrive at a healthy ego identity, a conscious sense of self that is developed through social interaction. Erikson defines crisis "in a developmental sense to connote not a threat of catastrophe, but a turning point, a crucial period of increased vulnerability and heightened



potential” (p. 96). The central crisis in the theory is the adolescent identity crisis (identity versus role confusion), during which individuals explore their independence and establish an integrated and consistent sense of self in relation to others.

Similarly, Chickering and Reisser’s (1993) seven vectors include the establishment of identity and purpose as important constructs for an individual to resolve. Purpose is developed by becoming more intentional, clarifying interests and goals, creating future plans, and persisting when faced with challenges. Concentrated introspection and personal assessment, important aspects of identity development, are needed to develop strong occupational purpose.

Although student-athletes undergo the same general maturation process as their non-athlete peers, it is important to acknowledge the added dimensions that exist for student-athletes. As noted earlier in this dissertation, the campus athletic environment presents formidable challenges that may affect a student-athlete’s growth and development. Simons et al. (1999) stated that “the nature of intercollegiate athletics, especially at Division I schools, puts pressure on student athletes to strengthen their athletic commitment at the expense of their academic commitment” (p. 158). In particular, student-athletes construct an “athletic identity” and often encounter role conflict between their student and athletic identity. As well, many career development theories, such as Super’s lifespan approach, are rooted in the identity-development literature. In the following section, I present an overview of research that examines athletic identity and its relationship to career planning.

For most Division I student-athletes, intercollegiate sport participation is much more than a recreational endeavor. Athletics has often grown to be significant part of their personal identity over an extended period of time and the athlete role has often been significant since their early formative years. Many student-athletes grow up with dreams of winning an Olympic gold medal or being named Most Valuable Player while winning the Super Bowl. For some, athletics may provide the opportunity to attend college through an athletic scholarship. Student-athletes attend college for a variety of reasons. For some, college attendance is solely for the purposes of continuing their sport or as a pathway to playing professionally, while others seek to play at a higher level while pursuing their academic and career goals. Researchers have found that student-athletes choose a college for athletic and academic reasons, although athletic factors are often a primary consideration (Gabert, Hale, & Montalvo, 1999; Letawsky, Schneider, & Palmer, 2005).

Brewer, Van Raalte, and Linder (1993) describe athletic identity as the “degree to which an individual identifies with the athlete role” (p. 237) and notes that it is both a cognitive structure and social role. In this regard, both the individual and others, such as teammates, family, coaches, family, faculty, and media influence the athletic identity. The idea of athletics as a social role is developed later in this paper, in consideration with the student social role.

The benefits associated with a strong athletic identity include the development of a salient self-identity (McPherson, 1980), a positive effect on athletic performance (Danish, 1983), a greater involvement and commitment to physical activity (Fox &

Corbin, 1989), and higher sport-related competitiveness, goal orientation, and win orientation (Brewer et al., 1993). Some of the difficulties associated with strong athletic identity are anxiety in career decision-making (Grove, Lavalley, & Gordon, 1997), low levels of career maturity (Murphy et al., 1996), and identity foreclosure (Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993). In addition, Webb, Nasco, Riley, and Headrick (1998) found that a strong athletic identity was related to retirement difficulties, particularly for those retiring because of an injury, while Lally (2007) noted that decreasing the prominence of the athletic identity precluded a majority identity crisis following retirement.

Athletic identity is often a variable of interest within the student-athlete literature. In a retrospective study, Houle, Brewer, and Kluck (2010), surveyed female intercollegiate gymnasts to examine the developmental trajectory of athletic identity for three age periods (current age, 15 years of age, and ten years of age). The researchers utilized the Athletic Identity Measurement Scale (AIMS), a prominently utilized instrument in the study of athletic identity (Brewer et al., 1993). Findings suggest that athletic identity “increases from late childhood to adolescence and remains elevated into young adulthood unless the individuals terminate competitive sport involvement, in which case athletic identity decreases” (p. 146). This study provides support for the notion that athletic identity begins to develop in the formative years and student-athletes’ athletic identity remains strong in the collegiate years.

More recently, Strum, Feltz, and Gilson (2011) compared the level of athletic and student identity for Division I and Division III student-athletes, hypothesizing that

student-athletes at Division I institutions would have lower levels of student identity than those at Division III institutions because of the intensive athletic environment at Division I institutions. Results indicate no significant differences among the athletic and student identity levels for each level of competition. Differences do exist for gender, as females have lower levels of athletic identity and higher levels of student identity than males. Findings suggest that high athletic identity is associated with participation in all levels of intercollegiate athletics, not just Division I athletics. This study also confirmed a significant and negative relationship between athletic and student identity, supporting previous research (Brown et al., 2000; Murphy et al., 1996), and suggesting a potential for conflict among the athlete and student roles.

In 2006, Nasco and Webb observed that previous measures of athletic identity did not specifically acknowledge the presence of “public” and “private” aspects of the athlete role and their independent effects on behavior. Drawing upon personality research that highlights public and private elements within one’s self-concept, a private orientation refers to “elements of one’s identity that are potentially unavailable to public scrutiny, including one’s attitudes, values, beliefs, feelings, and emotions” (p. 435). In addition, the public orientation is “our perception of how others see (and judge) us in a particular social role” (p. 435). Applying these definitions to the athlete role, private athletic identity is the extent to which a person internally embraces an athletic persona, while public athletic identity is the extent to which a person values the athletic person that has been given by others. Expanding the view of athletic identity to incorporate these distinct aspects, the researchers created the Public-Private Athletic Identity Scale to address these

dimensions of athletic identity and found that this instrument “enhances prediction of behavioral measures over other identity scales” (p. 434).

**Athletic Identity and Career Development.** As Brown et al. (2000) note: “in understanding the career development of student-athletes, attention to the social psychology study of sport behavior, namely identity development constructs (i.e., identity foreclosure and athletic identity) must be considered” (p. 55). Further, Brewer et al. (1993) suggests that “individuals who strongly commit themselves to the athlete role may be less likely to explore other career, education and lifestyle options due to their intensive involvement in sport” (p. 241). As identity development can be an important part of one’s career development process, many researchers have examined the intersections of athletic identity development with career development.

Blustein and Phillips (1990) link identity foreclosure to a dependent decision-making style. Student-athletes typically experience a highly-structured environment in which responsibility for important decisions may be deferred to others or there is little choice, and consequently, student-athletes may be at particularly high risk for identity foreclosure. Division I student-athletes devote a considerable amount of time participating in their sport and often possess a strong athletic identity, so there may be little time left for or interest in the self-exploration necessary to develop mature career plans. Consequently, student-athletes’ identity may be prematurely shaped and foreclosed before a variety of career interests and talents have been sufficiently sampled. Others have suggested that career planning may be seen by some as a threat to student-athletes’

athletic identity and dreams of being a professional athlete (Good et al., 1993; Kennedy & Dimick, 1987).

A variety of researchers have examined student-athletes and their levels of identity foreclosure with conflicting results. As presented earlier in this chapter, McQuown Linnemeyer and Brown (2010) found that student-athletes have significantly greater levels of identity foreclosure than do fine arts students and general college students, although the level of identity foreclosure for the student-athletes in the sample was below that of the Adams' (1998) criteria for the foreclosed identity status. In contrast, Rivas Quiñones (2002) found that student-athletes do not foreclose on career choices prematurity and are not less vocationally mature than their non-athlete peers. The researcher did find that student-athletes were less open to new alternatives after they had made a career choice. Results also indicate no differences in the tendency to foreclose or the career maturity of student-athletes when compared by their expectation to play professionally or by athletic scholarship status. While there are no differences by gender in identity foreclosure, female student-athletes have higher levels of career maturity than male student-athletes.

In a quantitative study, Murphy et al. (1996) assessed the extent to which levels of identity foreclosure and athletic identity were related to the level of career maturity for Division I student-athletes. The sample for this study included 124 student athletes, of which approximately 80 percent were male. Career maturity was measured with the attitude scale of the Career Maturity Inventory (CMI) (Crites, 1978), which assesses various aspects of the career decision-making process, including decisiveness,

independence, and involvement. Results demonstrate that athletic identity and identity foreclosure are inversely related to career maturity, observing that strong identification with the athletic role may hinder student-athletes' exploration of alternative identities or making career decisions. Another finding of note is the student-athletes' mean scores for career maturity. Compared to 12<sup>th</sup> grade students, 65 percent of student-athletes scored below the 25<sup>th</sup> percentile, indicating possibly delayed or impaired career development.

In addition, effects are significant for gender and sport: women have higher career maturity scores than men and revenue athletes have higher identity foreclosure scores and lower career maturity scores (Murphy et al., 1996). The authors assert that "male varsity athletes may be at particular risk for restricted career development" (p. 244). While there was a limited number of female student-athletes in the sample, findings suggest no differences in athletic identity by sport and gender, which indicates that male and female student-athletes similarly identify with the athletic role.

Brown et al. (2000) also investigated relationships between career decision-making self-efficacy, career locus of control, identity foreclosure, and athletic identity. Results indicate that hours of sport participation and career locus of control are inversely related to career decision-making self-efficacy. In this study, there is no relationship between athletic identity and career decision-making self-efficacy, although "student-athletes who were less foreclosed in their identity possessed greater confidence in their ability to make career decisions" (p. 58).

Brown and Hartley (1998) conducted a study with 114 male student-athletes from Division I and Division III institutions and found no significant relationship

between athletic identity and five career development variables: planning, exploration, decision-making, world-of-work information, and knowledge of preferred occupational group. The results indicate no significant difference by level of sport competition, although those student-athletes who wished to play professional sport had lower levels of career maturity than other student-athletes. Considering the results of this study, Martinelli (2000) observes that career aspirations, rather than identity, might be more closely associated with career maturity.

In 2009, Whipple examined the relationship of athletic identity, identity foreclosure, and career maturity for Division III student-athletes. The researcher utilized both Nasco and Webb's (2006) public and private athletic identity framework (Public-Private Athletic Identity Scale) and Brewer et al. (1993)'s Athletic Identity Measurement Scale to measure athletic identity. Whipple found that identity foreclosure, athletic identity, public athletic identity, private athletic identity, and PPAIS total scores are inversely related to career maturity. Stepwise regression analysis demonstrated that public athletic identity accounted for 11 percent of the variance in career maturity, while private athletic identity, the other significant association, added 1 percent more variance. Although the results are similar to those previously found with Division I student-athletes, the researcher noted that the relationships found in this study were weaker, suggesting that Division III student-athletes may reconcile their identity hierarchies differently. This study is significant as it is the only study I could identify that utilized Nasco and Webb's instrument as a measure of athletic identity with intercollegiate student-athletes. The results demonstrate that public and private aspects of athletic



identity have different relationships to career maturity and provide a promising direction for further research about how athletic identity affects student-athletes' career development.

Hook (2012) conducted a comparison study of Division I student-athletes and non-athletes to understand the relationship between athletic identity and career identity. Analyses also examined the differences by gender and academic standing for student-athletes. Findings suggest there is no relationship between athletic identity and vocational identity, nor is there any relationship among athletic identity and occupational engagement. The results of this study confirm those of Brown and Hartley (1998) and Brown et al. (2000) that found no relationship between athletic identity and career development. In addition, non-athletes have higher levels of occupational engagement than do student-athletes as consistent with previous research. Females also have higher levels of occupational engagement than do males, and student-athletes in their third and fourth years of study have higher levels than do those in their first and second years.

In a quantitative study, Tyrance et al. (2013) sought to understand the extent to which athletic identity, race, gender, sport, and expectation to play professional sport predicted career planning attitudes among Division I student-athletes. This is one of the few multi-institutional studies regarding career development of Division I student-athletes. Career planning attitudes were measured by the Career Futures Inventory (CFI), which included three subscales: career adaptability, career optimism, and perceived knowledge. The career adaptability scale for the CFI is different than the Savickas and Porfeli (2012) instrument used in this dissertation.

Results from this study (Tyrance et al., 2013) indicate that male and non-Caucasian student-athletes have higher expectations to play professional sports. In addition, students-athletes with higher expectations to play professional sports have higher levels of athletic identity. Surprisingly, in this study, females have higher levels of athletic identity than males. This finding contradicts previous work (Good et al., 1993; Brewer & Cornelius, 2001) in which there were little difference between males and females. Findings from the regression analyses suggest a significant inverse relationship between career adaptability and athletic identity. As a student-athlete's connection to the athletic identity increases, the ability to handle change in their future career plans, decreases. These findings indicate that a high proportion of these student-athletes are ill-equipped to navigate career change.

In addition, Tyrance et al. (2013) observed that career knowledge is related to gender, as male student-athletes believe they had a better understanding of employment trends and the job market compared to their female counterparts. These findings contradict previous studies (Blann, 1985; Murphy et al., 1996) which suggest that female student-athletes have higher levels of career development than males. Finally, athletic identity, gender, sport, and expectation to play professionally were found to be significant predictors of career optimism. Career optimism is inversely related to athletic identity. Males and students-athletes with higher expectations to play professional sports are more optimistic about their career future, although those participating in revenue sports have lower levels of career optimism. Of the three career-planning attitudes utilized in this study, career knowledge and adaptability may be most critical to helping student-athletes

transition beyond college, and can be enhanced through programming and skill development

Most recently, Houle and Kluck (2015) studied the extent to which athletic identity, expectation to play professional sport, scholarship status, and career decision-making self-efficacy predicted career maturity in Division I student-athletes. Results indicate that athletic identity predicts career maturity, confirming previous studies (Murphy et. al, 1996; Tyrance et al., 2013; Whipple, 2009) that suggest an inverse relationship between athletic identity and career maturity. In addition, the findings suggest no interaction between athletic identity and career decision-making self-efficacy to predict career maturity, as the researchers had hypothesized.

The conflicting findings presented in this section suggest further study is necessary to clarify the relationship among identity and career development for Division I student-athletes. Nasco and Webb's (2006) expanded view of the athletic identity construct may provide greater insight as to how the two dimensions of athletic identity influence career development. In addition, career development may be affected by a variety of factors, so there is a need to consider the role of other variables beyond athletic identity. Examining the relationships among athletic identity and other constructs, such as academic motivation and role conflict, may provide greater understanding as to the influences on student-athletes' career development.

## **Academic Motivation**

Academic achievement plays a role in one's career development, as academic performance is often a critical factor in graduate and professional school admission decisions, and may influence employment options. In today's knowledge-driven economy, an undergraduate degree is often a prerequisite to obtaining an employment position. In recent years, the academic and athletic community has enacted policy changes and expanded support resources to increase the number of student-athletes who graduate, particularly at Division I institutions. Academic eligibility requirements are no longer minimal standards to allow students to continue to participate in their sport, but rather, demand student-athletes make continual progress towards completing their degree. Some student-athletes, particularly those with a primary goal of competing at the professional level, view their academic degree as a "back up plan" or may have little intention of receiving their degree. As Carter (2012) notes, "because Division I student-athletes receive mixed messages about their athletic goals taking precedence over their academic goals, it is not surprising that not all Division I student-athletes are motivated to graduate college" (p. 2).

Student-athletes represent a peculiar paradox. Simon et al. (1999) argues that "athletic success requires an individual to work hard, be self-disciplined, exhibit perseverance and determination, be able to concentrate, [and] stay focused" (p. 151); however, these same skills and abilities do not always translate from the playing field to the academic classroom. Although previous research regarding academic performance of student-athletes focuses primarily on cognitive academic variables, there has been

increasing evidence that noncognitive factors, such as motivation, are influential to academic achievement (Anderson, 2010; Carter, 2012; Gaston-Gayles, 2004; Simons et al., 1999; Simons & Van Rheezen, 2000). Motivation is an important construct to achieving goals, as it directs and shapes behavior (Solberg & Halavari, 2009). This section presents research regarding academic motivation and its relationship to the academic achievement of student-athletes.

Using self-worth theory as a model, Simons et al. (1999) found that Division I student-athletes' academic performance is associated with particular motivation types. Student-athletes who employ success-orientated and overstriver motivational profiles have significantly higher grade point averages than those who identify with the failure-avoider and failure-acceptor profiles. Higher academic performance is positively also associated with greater levels of intrinsic motivation and academic self-worth and negatively associated with athletic commitment and self-handicapping excuses. Findings also suggest that "fear of [academic] failure and the relative commitment to athletics ... play important roles in the academic motivation of revenue and non-revenue student-athletes" (p. 151).

In a subsequent study, Simons and Van Rheezen (2000) utilized self-worth theory to examine the role of achievement motivation and the athletic-academic relationship to predict student-athletes' academic performance at the University of California, Berkeley, a Division I institution. Findings indicate that achievement motivation variables are significant predictors of grade point average, making independent contributions to predicting grade point average when background factors and academic preparation

variables were added to the regression model. Athletic-academic relationship variables (athletic-academic commitment and exploitation) were also significant negative predictors of grade point average.

The researchers observe that “student-athletes, even those with strong academic skills and a developed academic identity, must respond to these increased demands by making a stronger commitment to academics” (p. 177). In addition, findings suggest that “the central problem facing student-athletes at an academically elite university . . . is to strike the proper balance between academic and athletic demands that are often in conflict” (p. 177).

In 2004, Gaston-Gayles examined the “influence of academic and athletic motivation on academic performance after controlling for precollege characteristics” (p. 75). Specifically, the researcher sought to determine how academic, career, and athletic motivation predicted student-athletes grade point average (GPA) using the Student Athletes Motivation toward Sports and Academics Questionnaire (SAMSAQ). The instrument was based on an expectancy-value framework, informed from self-efficacy and attribution theory. Academic motivation is “a student’s desire to excel in academic-related tasks” while athletic motivation refers to “a student’s desire to excel in athletic related tasks” (p. 77). In addition, career athletic motivation measures “the extent to which student athletes are motivated toward a professional career in athletics” (p. 77). Some of the background characteristics were self-reported by student-athletes and other data, such as ACT scores, were obtained from the institution’s registrar.

Gaston-Gayles (2004) conducted a forward stepwise regression, entering first the precollege characteristics, then the motivation scores. Results indicate that precollege characteristics account for 24 percent of the variance in college GPA. After controlling for the precollege variables, motivation scores account for an additional 9 percent of the variance in academic performance. The variables that are significant predictors of college GPA include ACT scores, ethnicity, and academic motivation. Higher levels of academic motivation and ACT scores predict higher college GPAs.

Although career athletic motivation and student athletic motivation are not significant predictors of academic performance, a student-athlete's level of academic motivation is significant. Gaston-Gayle's (2004) findings contradict previous research by Sellers (1992) that suggests academic motivation is not related to academic performance, and Simons et al.'s (1999) study that argues a desire to play professional sports and athletic motivation have a negative effect on academic performance. Few studies before this time had explored academic and athletic motivation as noncognitive variables for predicting academic performance for student-athletes. Gaston-Gayle's findings provide a significant contribution to understanding the factors that affect Division I student-athletes' success in the classroom.

In contrast, Carter (2012) utilized achievement goal theory to examine the academic and athletic motivation of Division I student-athletes. Findings indicate significant differences in the motivational orientation of student-athletes by gender, recruited status, and starter status. Student-athletes who have an approach, rather than avoidance, orientation to academics tend to perform better athletically and academically.

In addition, the strongest single predictor of academic achievement is academic self-efficacy; however, when combined, academic self-efficacy and academic achievement motivation predict the academic performance of student-athletes better than either variable separately.

The academic reforms enacted by the NCAA to increase student-athletes' academic achievement and degree progress have led to increased graduation rates (NCAA, 2015). Consequently, several studies have emerged to identify factors that support student-athletes' persistence and graduation. Sherry and Zeller (2014) designed an exploratory, mixed-methods to understand what factors affected the athletic and academic motivation of female student-athletes on a single Division I basketball team. Data was gathered through Gaston-Gayles' (2004) SAMSAQ, Brewer et al.'s (1993) AIMS, and interviews. Among the team members included in the study, the authors found a clear commitment to success in both athletics and academics. Student-athletes prioritize their studies, directing considerable time and efforts towards achieving strong grades. One student-athlete recalled her advice to others about the importance of academics over athletics. The qualitative and quantitative data suggests while many of the student-athletes feel that academics are more important than athletics, they are deeply invested in their athletic success and identify sport participation as one of the most important things in their lives. Although findings indicate that the student-athletes encountered difficulties juggling athletic and academic demands, academic success is a primary responsibility and goal.



Gragg and Flowers (2014) sought to identify factors which positively affect the persistence and graduation of former African American Division I football players. Using a grounded theory approach, the researchers interviewed student-athletes who received an athletic scholarship, earned at least one varsity letter in their sport, and successfully navigated the Division I athletics environment by obtaining their degree. Six themes emerged that were important to football players' academic performance: a) family members/significant others, such as high school teachers and coaches; b) institutional commitment to their success, particularly the athletic department and coaching staff; c) teammate influence/peer acceptance of the importance of academics; d) self-motivation and desire for academic success; e) fraternity influence; and f) spirituality. Student-athletes stated that their own determination, or motivation, to graduate was critical to their success. The researchers note that "a combination of non-cognitive factors is often at the core of ... [African American student-athletes'] success" (p. 84).

The findings in Gragg and Flower's study are noteworthy, as black student-athletes are more likely to be underprepared when they enter college (Harrison, Comeaux, & Plecha, 2006; Harper, Williams, & Blackman, 2013), and when in college, black student-athletes graduate at lower rates and are less likely to experience post-college career mobility (Davis & Cooper, 2014). Understanding the factors that influence the academic success of black student-athletes is critical. Gragg and Flower's results support the importance of high parental academic expectations found by Martin, Harrison, and Bukstein (2010) in their study of high-achieving black student-athletes at Research I universities. In contrast, the student-athletes in Martin et al.'s study note how

their coaches' verbal support for academic success was incongruent with their actions. Student-athletes reported that coaches often actively discouraged their involvement in academic activities and connected poor athletic performances with efforts to achieve academically. Harrison, Comeaux, and Plecha (2006) also noted that college grades were influenced by interactions with faculty who intellectually challenged and engaged black student-athletes.

As findings from the literature indicate, motivation is an influential factor to student-athletes' academic performance. Student-athletes who strive to do well academically tend to prioritize behaviors that lead to academic success, such as directing greater effort to earn high grades, seeking academic help from tutors and professors, and engaging academic opportunities like undergraduate research or internships. These types of experiences can be instrumental in student-athletes' future career opportunities. The research about student-athletes' academic motivation tends to focus on its associations with academic achievement. Applying this construct to career development is a natural extension, however, there is little research about how academic motivation interacts with one's athletic identity development or the challenges of being both a student and athlete. Understanding the relationships among these factors and their influence on career development warrants further exploration.

### **Student and Athlete: Role Congruence or Strain?**

A common element within the various perspectives of identity is the social interaction with others and its effect on the development of one's self-concept. Stryker

and Burke (2000) note that within an individual's social networks, there are expectations for behaviors. When social roles are internalized, an identity forms. Individuals interact with multiple social networks and as a result, develop a variety of identities. Identities are organized in a hierarchical way and the more salient a particular identity is, the more likely it will surface during social interactions, even if it is not the most appropriate identity to exhibit during that interaction (Stryker, 1968).

As student-athletes assume multiple identities, perhaps most notably that of student and athlete, role theory provides an additional framework for consideration of their career and identity development. Drawing upon psychology, sociology and anthropology, role theory is "concerned with the study of behaviors that are characteristic of persons within contexts and with various processes that presume, produce, explain or are affected by those behaviors" (Biddle, 1979, p. 4). Role theory suggests that individuals will behave in distinct and predictable ways, depending upon their relevant social identities and contexts (Biddle, 1986). As in a theater production, individuals adopt characters with scripts for behaviors that are acknowledged and understood by others. Mahoney (2011) noted that "individuals' behaviors are associated with the demands of others, as well as shaped by their own roles" (p. 6). Whipple (2009) also cautions that "identities do not automatically determine behavioral responses, but that identities and behaviors are involved in a reciprocal relationship with one another" (p. 8).

As student-athletes assume their multiple roles, the level of saliency for each role may vary at different times and across contexts. Biddle (1986) acknowledges the propensity for role conflict, when incompatible role expectations require individual to

engage in behaviors that cannot be accomplished at the same time. Settles, Seller, and Damas (2002) posit that individuals differ in the extent to which they view their multiple roles as distinct, defining role conflict as when an individual views multiple roles as separate and one of the roles interferes with the other. Role overload, however, is distinguished from role conflict and occurs when an individual does not view roles as distinct, but rather, as one unified role with conflicting demands. The authors note that an “individual’s perceptions of the distinctiveness of two roles, or . . . role separation, may act as a buffer by preventing the negative experiences of one role from polluting other roles” (p. 575) and suggest a need for further research regarding perceptions of the distinctiveness of role identities.

Student-athletes dedicate an enormous amount of time to their sport and there is little time for other activities. Balancing demands of time for practice, weight training, competition, team travel, and person and academic responsibilities proves difficult at best. The physical demands and time commitment placed on student-athletes suggest that athletes must identify greatly with their athletic role (Tyrance et al., 2013). Simon et al. (1999) note that when faced with conflict between the demand of athletics and academics, student-athletes often choose in favor of athletics.

Being a student-athlete sometimes affects academic choices. For example, approximately 25 percent of student-athletes indicate that athletics prevents them from majoring in what they really wanted to, although very few regret that choice (NCAA, 2015). While about 10 percent of student-athletes participate in study abroad activities, just over one third would like to but cannot because of their athletic obligations. In

addition, approximately 25 percent of Division I female student-athletes want to spend less time on their sport.

The empirical research offers conflicting conclusions regarding role conflict for student-athletes. A seminal work about the role conflict student-athletes experience is Adler and Adler's longitudinal study of a Division I basketball team (Adler & Adler, 1987; 1991). Using a qualitative methodology, the researchers examined the changing salience of student-athletes athletic, social, and academic roles over a four-year period. The researchers found that, upon entering college, student-athletes have high aspirations and optimism regarding their academic role and "while their athletic role was unquestionably the most salient and their social role secondary, the academic role was still a critical dimension of their self-identity" (p. 446). As they progressed through their time at the institution, student-athletes learn that their initial positive academic expectations are inaccurate, as they began to experience structural barriers that make it difficult to give appropriate attention to their academic role.

For many student-athletes, the academic rigor is higher than they anticipated and requires more time than they were able to devote to their academic work (Adler & Adler, 1987; 1991). In addition, student-athletes have little control and eventually assume little ownership over their academic matters. Coaching staff routinely select and register student-athletes for classes, communicate with their professors, and purchase their books. When coaches were too busy to complete these tasks, student-athletes did not know how to execute them and abdicate responsibility for doing so. Many student-athletes become disinterested in their coursework and disappointed in their academic performance. For

high-achieving student-athletes, their coursework provides little academic challenge, and over time, they lose interest in doing well in classes. The saliency of the academic role diminishes, within the first two years, and is exacerbated by a student-athlete peer subculture that discourages student-athletes from exerting effort in their academics. The researchers conclude that to resolve their role conflict, student-athletes choose to realign their expectations, priorities, and salience of their roles, devoting little attention to the academic role as the athletic role engulfs them. Social isolation from others beyond their teammates also contributes to this phenomenon. Adler and Adler's research offers perspective for how some student-athletes cope with the challenges of the multiple roles, noting that the initially high academic aspirations eventually give way to the dominate athletic role.

In addition, Killea-Jones (2005) conducted a study of an ethnically-diverse group of male Division I college football players and found that most student-athletes reported relatively greater convergence between the student and athlete roles than discrepancy. This finding supports Lance's (2004) work in which the researcher found little evidence of role conflict among student-athletes. Further results from Killea-Jones' study indicate that role discrepancy was found to have an inverse relationship with well-being, life satisfaction, and academic satisfaction. Student-athletes who integrate their student and athlete roles are more likely to exhibit positive levels of psychological adjustment and satisfaction. In addition, a positive view of the academic role is essential for role conversion among student-athletes.

Killeya-Jones's (2005) results conflict with previous research (Adler & Adler, 1987; 1991) that found significant evidence of role conflict. It is important to note that because of pressure from the external community, academic eligibility standards have continued to rise since Alder and Alder's study. In addition, Settles et al. (2002) found a positive relationship between role separation, perceptions of the distinctiveness of two roles, and well-being for Division I student-athletes. The researchers suggest that separating roles allows for student-athletes to solely concentrate on the demands of each role as they encounter them, which improves performance in each role. Common themes among these studies (Adler & Adler, 1987; Adler & Adler, 1991; Killeya-Jones, 2005; Lance, 2004; Settles et al., 2002) indicate that student-athletes who are able to integrate or bring some sense of balance to their multiple roles are more likely to be successful.

Woodruff and Schallert's (2008) qualitative study of nine Division I student-athletes explored the connections among academic and athletic motivation and one's sense of self. Findings illustrate "how inseparable motivational and self processes that student-athletes experienced in negotiating who they were and what motivated them in the domains of athletics and academics from the time they had entered college" (p. 52). Woodruff and Schallert's study offers insight into the potential connections among academic motivation and the multiple roles of student and athlete as explored in the current study.

**Role Conflict and Career Development.** Finch (2009) examined the relationship between athletic and student identity roles and the career decision-making self-efficacy levels of 162 Division I student-athletes from 15 varsity sports. In this multi-institutional

study, three existing instruments were used to comprise the student role, athletic role, and career development measures: Student Identity Scale (Shields, 1995), AIMS (Brewer et al., 1993) and Career Decision-Making Self-Efficacy Scale-Short Form (Betz, Klein & Taylor, 1996), which measured “the degree of confidence an individual has in his or her ability to make career related decisions” (Finch, 2009, p. 430). Findings from this study demonstrate that student and athlete identities account for a significant amount of the variance in career decision-making self-efficacy, whereas demographic variables do not. In addition, student identity is a significant predictor of student-athlete’s confidence making career related decisions, although no predictive relationship was found between athlete identity and career decision-making self-efficacy. Results also indicate an inverse relationship between athletic identity and student identity (2007). Previous research that failed to find a direct relationship between athletic identity and career development (Brown & Hartley, 1998; Kornspan & Etzel, 2003) suggests that the student identity might moderate the relationship. Consequently, Finch performed a test for moderation. Student identity was not found to moderate the relationship between the athletic identity and career decision-making self-efficacy.

The findings from this study indicate that institutions that engage in strategies to build or enhance a Division I student-athlete’s student identity may have a positive impact upon one’s confidence with career decision-making (Finch, 2009). Given the context of the Division I environment, the researcher observes that “it is not likely that [student-athletes] need further strengthening of their athlete identities. However,



strengthening their student identities, along with other career and academic development strategies, should have some beneficial career decision-making effects” (p. 432).

Henderson’s (2014) qualitative study of Division I female student-athletes demonstrates that role conflict is an important factor in their lack of preparation for transitioning to a career after college. Each of the student-athletes in this study indicated they lacked time to participate in opportunities such as internships, study abroad, and student organizations, that would have aided in their professional development. Many regret allowing their athletic participation to consume them. Although student-athletes do not feel ready for their transition beyond college, all student-athletes feel positive about their athletic experiences. As one participant notes “I really, really believe this is the greatest experience you can have as a human. It develops you in so many ways as a person, but also for your professional development later” (p. 34). A possible conclusion from this study is that female student-athletes do not engage in intentional career planning and therefore, lack confidence and knowledge of how to apply the skills and competencies gained from athletics to their career futures.

In a qualitative study, Mahoney (2011) explored how intercollegiate student-athletes perceive their academic and athletic roles, giving voice to the perceptions of the multiple roles student-athletes experience, and the intersections of athletic role, academic motivation, major selection, and career decision-making. This single-institutional study included 18 student-athletes in their sophomore, junior or senior year.

Student-athletes engaged in 60-90 minute interviews to explore the following issues: perceptions of the student-athlete experience; management of the student and

athlete roles; how each role influences the other; and the influence of athletic role on career decision-making and academic major selection (Mahoney, 2011). Five distinct themes emerged from the data analysis: two interconnected roles, part of an elite group, athletic role is reinforced more than the academic role, sensitivity to stereotypes, and career decisions take a backseat to athletics. First, student-athletes in this study see their academic and athletic roles as interconnected and difficult to separate. Student-athletes describe their multiple roles as having a “push and pull” relationship with each “vying for their time, attention, and energy” (p. 84).

As a result, student-athletes encounter difficulty in managing the responsibilities associated with both roles, coping by choosing which days and times to attend to each role (Mahoney, 2011). Student-athletes note differing views of the effect their athletic role had on their academic motivation. Some felt their athletic role increases their academic motivation while others believe their athletic role decreases their academic motivation.

The reinforcement of the athletic role over the academic role emerged as a noteworthy theme (Mahoney, 2011). Student-athletes often receive more positive reinforcement from their athletic role, particularly because of the greater visibility of that role. This theme provides support for the findings of Alder and Alder (1987; 1991). For many student-athletes in this study, academic reinforcement comes from their family members, as well as a personal desire to achieve academically. The fourth theme that the researcher found in this study was a sensitivity to stereotypes. Most of the participants consider stereotypes as a negative aspect of being a student-athlete; however, most accept

stereotypes as a consequence of their athletic participation. Many student-athletes describe that their professors and peers hold assumptions of their disinterest in academic work or academic abilities, as well as lower expectations for them in the classroom. Several participants engage in certain behaviors to specifically to counteract the stereotypes.

The final theme in this study is that career decisions, or lack of decisions, are influenced in some way by their athletic role (Mahoney, 2011). Some student-athletes describe their intention to play professionally and earn their degree as a “backup plan.” Most student-athletes do not seek out or utilize any of the formal career counseling offered in the athletic department or on campus. Several student-athletes intended to participate in career exploration activities, however, the daily demands of the student and athletic roles prevents their engagement while other student-athletes forgo these experiences to focus on their athletic role. This theme’s findings support previous research that athletic role has a negative impact on career planning for student-athletes (Brown et al., 2000; Murphy et al., 1996; Tyrance et al., 2013).

Most recently, Cooper and Cooper (2015) studied the experiences of two distinct groups of black male student-athletes at a Division I institution to understand factors that influenced their academic performance and engagement. Utilizing focus groups and role theory as its conceptual framework, the researchers sought to compare the experiences of both academically engaged and academically disengaged student-athletes at a single institution. Using grade point average as a proxy for academic engagement, student-athletes who had grade point averages between 2.5 and 4.0 were categorized as

“educational navigators” (ENs) and those with grade point averages less than 2.5 were defined as “potential educational navigators” (PENs). Distinct themes emerged for the personal backgrounds of each group: PENs described their backgrounds as “role models at home; dumb jocks at school,” whereas ENs strong academic roles were a result of messages of “if you’re going to do anything, strive to be the best.” The researchers found that based on the expectations and support received from their families, ENs entered college with role balance, a strong commitment to both their academic and athletic roles, whereas PENs received stronger affirmation for their athletic roles.

Both groups experienced role conflict when their athletic demands created barriers to their academic identities, such as a desired major’s requirements conflicting with their sport or an exam interfering with travel to an athletic contest (Cooper & Cooper, 2015). The responses to role conflict, however, differed between the groups: PENs tended to abandon their academic identities through placing a low value on excelling academically, while ENs tended to further embrace their student identity, determined to achieve their academic goals. Responses support Adler and Adler’s findings that as student-athletes without strong student identities experience college and encounter challenges between the two roles, the athletic role engulfs the academic role.

Cooper and Cooper (2015) note that ENs and PENs respond differently to role conflict, particularly when they encounter disappointments in athletics. ENs view athletic participation as a way to achieve their academic goals, engaging in a reciprocal exchange of effort with their sport, recognizing that athletics provide the opportunity to earn their degree. PENs, however, respond by shifting their perceptions and over PENs’ athletic

role saliency increases as their commitment to the academic role decreases. The findings in this study indicate a possible connection between student-athletes' academic motivation and role conflict.

While there are several studies that examine the concurrent roles of student and athlete and how it may affect Division I student-athletes' collegiate experiences, there are limited empirical studies that link role theory to student-athletes' career development. Strum et al. (2011) suggests that "continued work examining athlete and student identities are needed to advance the body of knowledge focused on the collegiate sport experience" (p. 303). As "college students feel more satisfied when they are able to successfully implement their self-concepts in their academic and career pursuits" (Hartung & Niles, 2000, p. 12), learning more about how student-athletes create and implement their self-concept is an area for future study. As student-athletes prepare to transition beyond college, how they construct their impending future self-concept without the athletic role is particularly relevant. Petitpas, Danish, McKelvain, and Murphy (1992) note that athletes who struggle to adjust to life after sports are often those who lack interests outside of their sport. As a result, "it becomes important for athletes to find a balance between their roles to help them adjust to career termination" (Strum et al., 2011, p. 303). As I have presented in this literature, there is not a clear understanding of factors that influence student-athletes' career development and consideration of additional variables is necessary.

### **Chapter 3:**

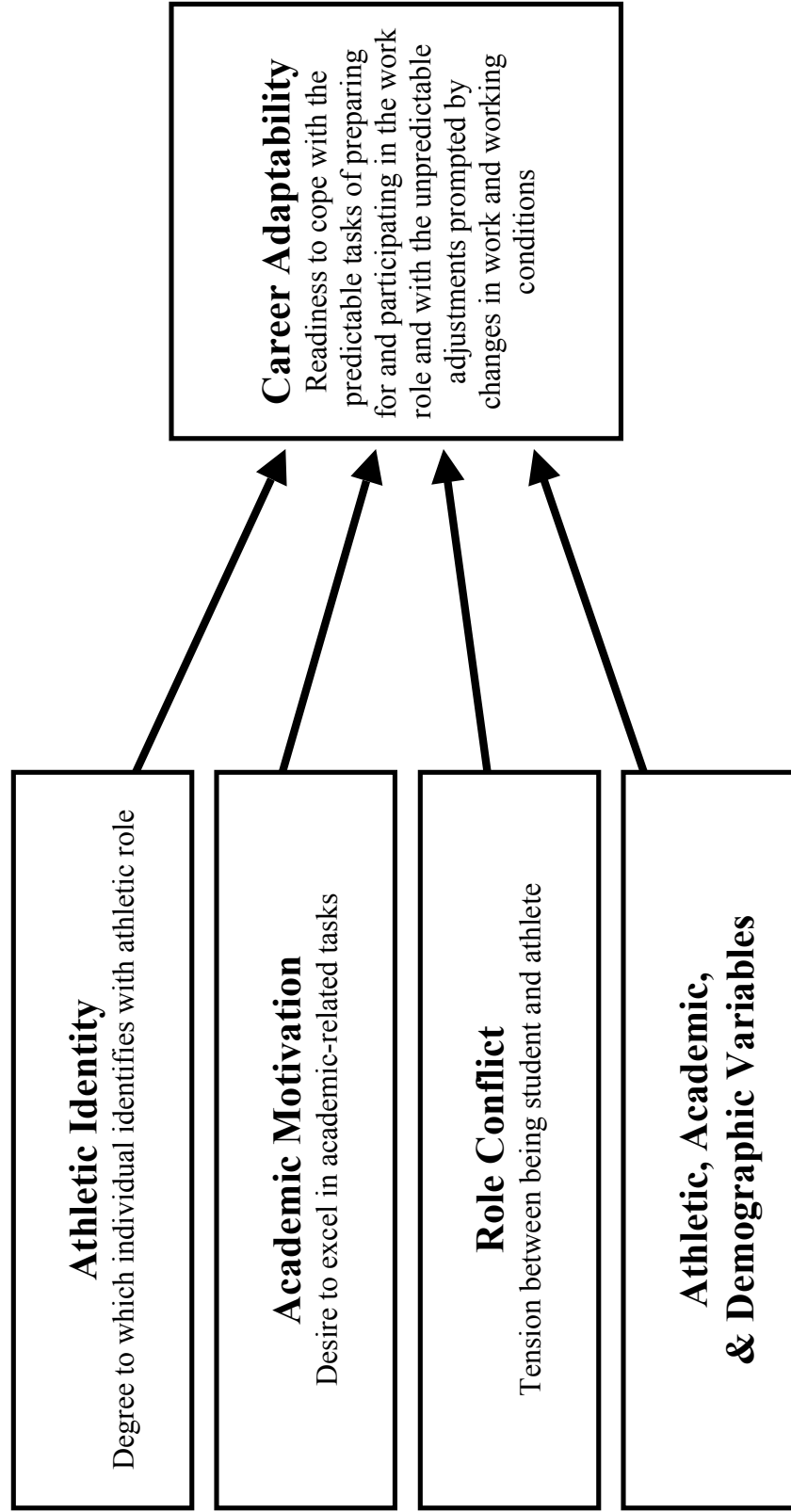
## **Conceptual Framework and Methodology**

This study examines relationships among career adaptability, athletic identity, academic motivation, and role conflict for Division I student-athletes. The literature review presented in the previous chapter details themes and empirical research related to the career development, identity development, academic motivation, and role conflict of student-athletes. First, I present a conceptual framework that outlines the central elements of the research question and the connections among these elements. The variables utilized in this study are also detailed. The chapter ends with the methods I used to conduct the study, including a description of the setting and sample, information about the items in the instrument, the data collection procedures, and the data analyses.

### **Conceptual Framework**

The research question guiding this study is: *How is career adaptability related to athletic identity, academic motivation, and role conflict for Division I student-athletes?* The conceptual framework showing the relationships among the dependent, independent, and athletic, academic, and demographic variables is presented in Figure 1. For the purposes of this study, the conceptual framework is informed by career construction theory (Savickas, 2005), role theory (Biddle, 1979), and athletic identity (Nasco & Webb, 2006).

Figure 1: Conceptual Framework



### Career Adaptability

The dependent variable in this study is career adaptability. Savickas (1997) describes career adaptability as “the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions” (p. 254). Building upon Super’s (1957) foundational work, career construction theory guides a more relevant interpretation of how people make career paths in the 21<sup>st</sup> century (Savickas, 2005). Savickas (2005) depicts career-adaptive individuals as: “(1) being *concerned* about their future as a worker, (2) increasing personal *control* over their vocational future, (3) displaying *curiosity* by exploring possible selves and future scenarios, and (4) strengthening the *confidence* to pursue their aspirations” (p. 52).

Past research regarding student-athletes’ career development identified a gap in student-athletes’ career maturity and career decision-making self-efficacy; however, the research has offered little more than a gap. The low levels of career maturity found among student-athletes in previous studies may reflect student-athletes’ lack of engagement in exploratory behaviors, by a desire to play professional sports, or lack of attention to their future. As a construct, career maturity denotes a readiness to commit to a particular occupation which is not necessarily a defining outcome in current college career counseling practice. Recent research (Savickas & Porfeli, 2012; Chan et al., 2015) demonstrates that career adaptability is a concept distinct from career maturity. Also, career adaptability is quickly replacing career maturity as a central construct in both career development practice and research (Savickas, 1997, 2005, 2013; Chan et al., 2015;



Taber & Blankemeyer, 2015; Hirschi, Herrmann, & Keller, 2015). The career maturity construct was used most often in previous research about student-athletes' career development, so the choice of career adaptability for this study represents a new approach. Self-efficacy in career decision-making, another measure that was considered for this study, examines one's confidence in performing certain career behaviors. Confidence is but one dimension of career adaptability, as the concept broadens the aspects of career development to also include an orientation to one's career future, seeing oneself as responsible for such planning and choices, and active engagement in exploring various aspects of one's career development and path. Career adaptability is distinct with its more expansive view of career development and its focus on broad career competencies that will serve an individual across the career life-span.

Career counseling has shifted from occupational choice readiness towards skills and competencies necessary for an ever-changing, often multi-occupational career path, and so career adaptability is an appropriate construct for this study. Career adaptability includes decision-making, being future-oriented, planning, problem-solving, and persevering across multiple contexts. The skill sets within career adaptability yield a more complete understanding of how student-athletes may be equipped for their futures after college. The career adaptability measure also illuminates the skills and competencies that are critical to the career choices that student-athletes will make throughout their lives. In addition, while student-athletes often do not participate extensively in career-planning activities during college, many of these career adaptability skills can be developed without participating in such formal activities. Finally, career

adaptability competencies are outcomes often associated with intercollegiate athletic participation.

### **Athletic Identity, Academic Motivation, and Role Conflict**

Athletic identity and role conflict emerged as constructs often studied for student-athletes. Although the impact of each of these variables on measures of career development is not conclusive in the research, both constructs have a theoretical basis for inclusion in the current study. Academic motivation is a related but distinct concept, and no studies were identified that linked academic motivation in a quantitative way to intercollegiate student-athlete career development. As academic motivation could provide additional insight into the career adaptability of Division I student-athletes, it is a variable of interest.

**Athletic Identity.** As noted in Chapter Two, a fundamental task for students during college is formulating an integrated sense of self or identity. Identity comprises one's interests, beliefs, values, and skills, and is often a critical component of the career development process. In particular, student-athletes develop an "athletic identity" which Brewer et al. (1993) described as the "degree to which an individual identifies with the athletic role" (p. 237). Athletic identity has often been studied as a construct related to the career development of intercollegiate student-athletes with mixed results, as some studies have found a negative relationship between athletic identity and career development (Murphy et al., 1996; Houle & Kluck, 2015; Whipple, 2009; Tyrance et al., 2013), while

others have found no significant effect (Brown & Hartley, 1998; Brown et al., 2000; Hook, 2012).

The relationship between athletic identity and Savickas' (1997) career adaptability has not been studied in previous research. Brown and Bohac (1997) caution that student-athletes' engagement "in developmentally appropriate opportunities is often suppressed by an athletic system that regards winning as paramount" (p. 671). Athletic identity may negatively affect student-athletes' development of career competencies, and so athletic identity is included in this study. Understanding how athletic identity is related to career adaptability will assist those staff who engage in future-planning conversations with student-athletes.

High levels of athletic identity may also be associated with a desire to play professional sports beyond college. The desire to play professional sports may negatively impact a student-athlete's interest in or time devoted towards developing career competencies and planning for a probable future of a career other than sports. Nasco and Webb's (2006) conceptualization of athletic identity provides two dimensions of athletic identity, "private" and "public." A student-athlete's internal connection (private) to being an athlete may be related to career adaptability differently than the sense of being an athlete that comes from external recognition and status (public). This measure of athletic identity may provide insight into the effect of athletic identity on career development beyond previous research, as it offers a greater complexity within the athletic identity construct than Brewer et al.'s (1993) measure of athletic identity.

**Academic Motivation.** The second independent variable in this study is academic motivation. Academic achievement, often influenced by one's academic motivation, can play a role in one's career path by influencing employment options or graduate and professional school admissions. In the past decade, there has been considerable interest in how policy and resources can be applied to increase the academic performance and degree completion of student-athletes. Within the athletics community at a Division I institution, some student-athletes may view degree completion as a "Plan B" and prioritize their attention towards performance in their sport over succeeding in the classroom. Research demonstrates that academic motivation plays a strong role in academic performance (Gaston-Gayles, 2004; Carter, 2012), and academic performance can often influence one's career options and choices, and so a relationship may exist between academic motivation and career adaptability. This relationship is an area of exploration in this study, as student-athletes who are motivated to succeed in the classroom may be more likely to be future-oriented, as well as possess the skills and competencies necessary for adapting to the demands of the world of work and shaping an intentional career path.

For the purposes of this study, academic motivation is operationally defined as "the extent to which students are motivated toward academic related tasks" (Gaston-Gayles, 2004, p. 78). Gaston-Gayles' work is grounded in expectancy-value theory, which is part of Atkinson's (1957) achievement motivation theory. Expectancy-value theory suggests that behavior is a result of one's anticipated outcomes or expectancies, and the importance or value of task to be completed. In addition, achievement is the

combination of two motives, the tendency to approach success and avoid failure (Spence & Helmreich, 1983), as well as the probability of success or failure. People with a high motivation for success tend to engage in more difficult tasks where the value for the task and the probability of success is high, whereas those with a high motivation to avoid failure tend to engage in easier tasks where failure is not likely. Weiner (1984) notes that motivation towards a particular task is determined by one's choice of, persistence toward, and effort applied to the task. As such, individuals who are motivated to be successful tend to devote much effort toward completing a chosen task.

**Role Conflict.** The third independent variable in this study is role conflict. As Thomas (1980) notes, social situations influence the development of one's self-concept and within these contexts, certain behavior expectations emerge. Biddle (1979) develops this idea further, describing how individuals will behave in particular and predictable ways within their relevant social identities and contexts. The propensity for role conflict is present when there are expectations across an individual's multiple roles that are incompatible. In the case of Division I student-athletes, role conflict is often present as they try to balance significant, simultaneous commitments to being a student and an athlete.

Previous research illustrates the role conflict that student-athletes often experience (Adler & Adler, 1987; Settles et al., 2002). Other researchers note that female student-athletes are better able to balance the often-competing roles of being a student and athlete than male student-athletes (Simons et al., 1999). In contrast, findings from Lance's (2004) study indicate little evidence that student-athletes experience high degrees of

conflict between their student and athlete roles. For the purposes of this study, role conflict is defined as the “concurrent appearance of two or more incompatible expectations for the behavior of a person” (Biddle, 1986, p. 82). Role conflict is included in this study to understand the effects of student-athletes’ ability to balance the multiple roles of student and athlete on career adaptability competencies. Student-athletes who have difficulty navigating these multiple roles may lack time to devote to developing career competencies. In addition, there may be differences in the career adaptability among student-athletes who demonstrate greater commitment to one role over the other. While role conflict and athletic identity have been denoted as separate psychosocial constructs, the potential interaction of these two variables is of interest.

### **Athletic, Academic, and Demographic Variables**

The final category of independent variables is the athletic, academic and demographic, or control, variables. For the purposes of this study, these variables include gender/sex; race/ethnicity; cumulative grade point average; year in school; athletic scholarship status; sport played; plan to pursue sport at a professional, Olympic, or world level after college; recruited-athlete status; first language; international student status; socioeconomic background; and parental education level. The demographic variables of gender/sex, race/ethnicity, year in school, parental education level, and socioeconomic background are included to control for the effects each may have on career adaptability.

As noted in the literature, some studies indicate differences among males and females for the independent variables of athletic identity, academic motivation, and role

conflict. Year in school is included as a variable to examine if the acquisition of career adaptability competencies is linked to any developmental pattern. To account for factors that may affect academic motivation, cumulative grade point average is included. In addition, academic scholarship status, sport played, planning to pursue sport beyond college, and recruited athlete status are factors that can be linked with student-athletes who have a greater affiliation to their athletic role or are highly talented athletes. Sport played is included to determine if those sports that are more typically associated with professional or post-collegiate opportunities may yield different levels of career adaptability. Athletic-scholarship status and recruited-athlete status are important control variables as they can be indicative of a greater focus on athletics and less on academics; these variables are included to determine what, if any, influence these factors may have on career adaptability. After a cognitive review of the instrument by three former student-athletes prior to data collection, I added two demographic variables: first language and international student status. The addition of these background characteristics will help account for any differences among student-athletes from countries other than the United States. I describe the cognitive review in greater detail later in this chapter.

## **Methodology**

In this section, I describe the research methodology chosen for this study. I employed a quantitative research design to address the research question and to understand the extent of the relationship among the variables. I then detail the setting and

sample, as well as the instrument used to measure the variables. Finally, I outline the data-collection procedures and analyses.

## **Setting**

This study was conducted at six universities that participate in NCAA Division I athletics. I chose the Division I athletics setting because these institutions most often combine academic and athletic prestige, invest a significant amount of time and money into supporting athletics and support services for student-athletes, typically offer a wide range of sports for men and women, and best illustrate the multitude of opportunities and challenges for student-athletes. Of the approximately 350 NCAA Division I member institutions, I compiled a list of 155 institutions, as well as the contact information of the lead academic/student services athletic staff member to invite to participate in this study. I chose to contact the lead academic/student services athletic staff member, as this individual is most often responsible for support programming for student-athletes, such as career development and academic advising. The list of prospective institutions included those that field at least 12 total sports, represented a variety of institutional types and a diversity of athletic conferences, and locations where travel was feasible.

Each of the six institutions included in this study has a comprehensive intercollegiate athletic program that fields a minimum of 16 sports, with each institution offering at least seven men's sports and nine women's sports. The number of total sports offered at each institution range from 16 sports to 35 sports. Institutions participate in the following Division I athletic conferences: American, America East, Big Ten, Horizon,



Ivy, and Mid-American. Three of the institutions participate in the Football Bowl Subdivision. The institutions in this study represent several regions of the United States: Mid-Atlantic (1), Midwest (3), Northeast (1), and Southwest (1).

Undergraduate enrollment at each institution ranges from about 3,500 to 31,000 students, and the median undergraduate enrollment for the six institutions is 12,729 students. The median total student enrollment for the six institutions is 17,772 students. In addition, for those institutions that report federal graduation rates of student-athletes, the graduation rate of their student-athletes is above 64%. The NCAA calculates a student-athlete Graduation Success Rate which defines graduation success as receiving a baccalaureate degree from any institution within a six-year period of initial enrollment. Each of the institutions in this study has a NCAA Graduation Success Rate over 78%. Descriptions of the institutions are presented in Table 1.

### **Survey Instrument**

The instrument used in this study is the Student-Athlete Career Development Questionnaire (Appendix B) which I designed. To measure the dependent variable, career adaptability, I utilized Savickas and Porfeli's (2012) Career Adapt-Abilities Scale (CAAS). Developed by a collaborative team of researchers from 18 countries, the CAAS is an international measure of career adaptability (Savickas & Porfeli, 2012). The CAAS-USA form, which contains 24 core items, was used for this study. Career adaptability measures psychosocial resources and Savickas and Porfeli define it as "self-regulation

Table 1: Description of Institutional Settings

Institution #1	16 sports 7 men's sports and 9 women's sports Does participate in football Undergraduate enrollment less than 10,000 NCAA Graduation Success rate: 87%
Institution #2	35 sports 17 men's sports and 18 women's sports Does participate in football Undergraduate enrollment over 10,000 and less than 20,000 NCAA Graduation Success rate: 95%
Institution #3	16 total sports 7 men's sports and 9 women's sports Does not participate in football Undergraduate enrollment less than 10,000 NCAA Graduation Success rate: 96%
Institution #4	17 sports 8 men's sports and 9 women's sports Does not participate in football Undergraduate enrollment over 10,000 and less than 20,000 NCAA Graduation Success rate: 78%
Institution #5	16 sports 7 men's sports and 9 women's sports Does participate in football Undergraduate enrollment over 20,000 NCAA Graduation Success rate: 83%
Institution #6	23 sports 11 men's sports and 12 women's sports Does participate in football Undergraduate enrollment over 20,000 NCAA Graduation Success rate: 90%

strengths or capacities that a person may draw upon to solve the unfamiliar, complex, and ill-defined problems presented by developmental vocational tasks, occupational transition, and work traumas” (p. 663). Permission to utilize this instrument was granted by one of the authors.

Although the Career Adapt-Abilities Scale has 24 items, one item, “learning new skills” from the confidence dimension, was accidentally left off the instrument produced for this study during preparation of the print version of the survey. Student-athletes were asked to rate how strongly they have developed 23 career abilities, across four dimensions of career adapt-abilities: concern, control, curiosity, and confidence (see Table 2). *Concern* involves the extent to which an individual recognizes and is involved in the planning of one’s career future; *control* refers to the extent which one feels a responsibility for preparing for one’s career future; *curiosity* is the active engagement in seeking information about possible work scenarios and roles; and *confidence* is the belief that individuals have in their ability to implement future career decisions (Savickas, 2005). Student-athletes were asked to select a response from a 5-point Likert scale developed by the author: strongest (4), very strong (3), strong (2), somewhat strong (1), and not strong (0).

For descriptive and multivariate analyses, I created scale measures for the four dimensions based on a factor analysis, as well as a composite for adaptability, that combined all 23 items. Each scale is the mean of the scores of the items that were clustered in the factor analysis and the adaptability composite is the mean of all 23 items. I chose to use means instead of sums to calculate the scales to account for missing

Table 2: Career Adaptability Scales

Instructions on survey:

*Different people use different strengths to build their careers. No one is good at everything, each of us emphasizes some strengths more than others. Please rate how strongly you have developed each of the following abilities using the scale below.*

Response options:

*Strongest (4), Very strong (3), Strong (2), Somewhat strong (1), or Not strong (0)*

Scales	Items
Concern	<ul style="list-style-type: none"> <li>a. Thinking about what my future will be like</li> <li>b. Realizing what today's choices shape my future</li> <li>c. Preparing for the future</li> <li>d. Becoming aware of the educational and vocational choices I must make</li> <li>e. Planning how to achieve my goals</li> <li>f. Concerned about my career</li> </ul>
Control	<ul style="list-style-type: none"> <li>g. Keeping upbeat</li> <li>h. Making decisions by myself</li> <li>i. Taking responsibility for my actions</li> <li>j. Sticking up for my beliefs</li> <li>k. Counting on myself</li> <li>l. Doing what's right for me</li> </ul>
Curiosity	<ul style="list-style-type: none"> <li>m. Exploring my surroundings</li> <li>n. Looking for opportunities to grow as a person</li> <li>o. Investigating options before making a choice</li> <li>p. Observing different ways of doing things</li> <li>q. Probing deeply into questions I have</li> <li>r. Becoming curious about new opportunities</li> </ul>
Confidence	<ul style="list-style-type: none"> <li>s. Performing tasks efficiently</li> <li>t. Taking care to do things well</li> <li>u. Working up to my ability</li> <li>v. Overcoming obstacles</li> <li>w. Solving problems</li> </ul>

Based on Career Adapt-Abilities Scale (Savickas & Porfeli, 2012)

responses and the missing item from Savickas and Porfeli's (2012) original instrument. In addition, the use of means for career adaptability analysis is consistent with other research (Porfeli & Savickas, 2012; Chan et al., 2015; Hirschi et al., 2015; Ryba, Zhang, Huang, & Aunola, 2017).

The independent variables in the conceptual framework (Figure 1) include athletic identity, academic motivation, and role conflict. Athletic identity was measured using Nasco and Webb's (2006) Public-Private Athletic Identity Scale (PPAIS) as detailed in Table 3. The PPAIS consists of ten items, with two subscales to measure public athletic identity and private identity. Results from Nasco and Webb's exploratory and confirmatory analysis include Cronbach's alpha of .74 for the public athletic identity scale and .753 for the private athletic identity scale. Permission to utilize this instrument was granted by one of the authors. Student-athletes were asked to respond to the statements provided on the 5-point Likert scale: strongly agree (4), agree (3), neither agree nor disagree (2), disagree (1), and strongly disagree (0). I created scales corresponding for the two dimensions, combining five items in each measure from a factor analysis. Each measure is the sum of the scores for the items associated with the factor.

In addition, academic motivation was measured using the Academic Motivation subscale of Gaston's (2002) Student Athletes Motivation toward Sports and Academics Questionnaire (SAMSAQ). Permission to utilize this instrument was granted by the author. Academic motivation is operationally defined as "a student-athlete's desire to

Table 3: Athletic Identity Scales

Instructions on survey:

*For the next 10 questions, indicate on the scale from (SD) strongly disagree to (SA) strongly agree which most closely relates to your personal thoughts, feelings and experiences.*

Response options:

*Strongly Agree (4), Agree (3), Neither Agree nor Disagree (2), Disagree (1), Strongly Disagree (0)*

Scales	Items
Public	<ul style="list-style-type: none"> <li>c. My popularity with others is related to my athletic ability.</li> <li>e. I only participate in sports because I am good at them.</li> <li>f. I often fear people will not like me as much if I do not compete well.</li> <li>g. My primary reason for competing in my sport is receiving awards and recognition.</li> <li>i. I fear not receiving the recognition and attention I get from being an athlete when I retire or finish competing</li> </ul>
Private	<ul style="list-style-type: none"> <li>a. Athletics help me express my emotions and feelings.</li> <li>b. It is very important for me to succeed at my sport.</li> <li>d. I obtain personal satisfaction from participating in athletics.</li> <li>h. Being an athlete is an important part of who I am.</li> <li>j. I would feel a great sense of loss if I suddenly were unable to participate in my sport.</li> </ul>

Based on Public-Private Athletic Identity Scale (Nasco & Webb, 2006)

excel in academic-related tasks” (Gaston-Gayles, 2004, p. 77). As detailed in Table 4, the academic motivation subscale consisted of 16 items and student-athletes were asked to respond to items such as “I am confident I can achieve a high grade point average this year (3.0 or above).” The 6-point Likert scale has the following options: very strongly agree (5), strongly agree (4), agree (3), disagree (2), strongly disagree (1), and very strongly disagree (0). Items h, k, and o were reverse-coded after a factor analysis, as detailed in the subsequent chapter.

For the purposes of this study, role conflict is operationally defined as a student-athletes’ difficulty fulfilling the expectations as both a student and an athlete. Role conflict was measured with a 10-item battery (see Table 5) that included two items from the Academic Motivation subscale of Gaston’s (2002) Student Athletes Motivation toward Sports and Academics Questionnaire (e.g., participating in my sport interferes with my progress towards earning a college degree) and eight items I developed (e.g., I can meet both my athletic and academic obligations during the athletic season). Student-athletes were asked to indicate their responses on a 5-point Likert scale: strongly agree (4), agree (3), neither agree nor disagree (2), disagree (1), and strongly disagree (0).

The control variables include gender/sex; race/ethnicity; cumulative grade point average (GPA); year in school; athletic scholarship status; plan to pursue sport at a professional, Olympic, or world level after college; sport played; recruited athlete status; first language; international student status; socioeconomic background; and parental educational variable. As current NCAA practices provide for men’s and women’s sports,

Table 4: Academic Motivation Items

Instructions on survey:

*Read each statement carefully. Indicate the extent to which you agree with each statement by circling the option that most closely relates to your personal thoughts, feelings and experiences.*

Response options:

*Very Strongly Agree (5), Strongly Agree (4), Agree (3), Neither Agree nor Disagree (2), Disagree, Strongly Disagree (1), Very Strongly Disagree (0)*

- a. I am confident that I can achieve a high grade point average this year (3.0 or above).
- b. It is important to me to learn what is taught in my courses.
- c. I am willing to put in the time to earn excellent grades.
- d. The most important reason why I am in school is to play my sport.
- e. I will be able to use what is taught in my courses in different aspects of my life outside of school.
- f. I chose (or will choose) my major because it is something I am interested in as a career.
- g. Earning a high grade point average (3.0 or above) is not an important goal for me this year.
- h. I get more satisfaction from earning an “A” in a course toward my major than winning a game in my sport.
- i. During the years I compete in my sport, completing a college degree is not a goal for me.
- j. I have some doubt about my ability to earn high grades in some of my courses.
- k. I am confident that I can earn a college degree.
- l. I get more satisfaction from winning a game in my sport than from getting an “A” in a course toward my major.
- m. It is not important to me to perform better than other students in my courses.
- n. The content of most of my courses is interesting to me.
- o. The most important reason why I am in school is to earn a degree.
- p. It is not worth the effort to earn excellent grades in my courses.

Based on Student Athletes Motivation toward Sports and Academics Questionnaire (Gaston, 2002)



Table 5: Role Conflict Items

Instructions on survey:

*Read each statement carefully. Indicate the extent to which you agree with each statement by circling the option that most closely relates to your personal thoughts, feelings and experiences.*

Response options:

*Strongly Agree (4), Agree (3), Neither Agree nor Disagree (2), Disagree (1), Strongly Disagree (0)*

- a. I can meet both my athletic and academic obligations during the athletic season.
- b. I am able to study as much as I need to succeed in my academic coursework during the athletic season.
- c. Sometimes I think I can't handle being both an athlete and a student.
- d. Participation in my sport interferes with my progress towards earning a college degree. (\*from SAMSAQ)
- e. I am able to participate in opportunities such as research, internships and student organizations that are important for my academic major during the athletic season.
- f. I am able to dedicate as much of my time as necessary to perform well in my sport during the academic year.
- g. I have withdrawn from a course because my athletic obligations interfered with my academic success.
- h. The amount of work required in my courses interferes with my athletic goals. (\*from SAMSAQ)
- i. I am able to participate in all of the opportunities (such as weight-training and viewing competition videos) that are important for my athletic performance during the academic year.
- j. The major I am pursuing makes it difficult to devote the amount of time I need to achieve excellence in my sport.

Two items are based on Student Athletes Motivation toward Sports and Academics Questionnaire (Gaston, 2002). Remaining items were developed by the researcher.

the options for gender/sex included: female (1) and male (0). For race/ethnicity, student-athletes were able to check any number of the following: Asian American/Pacific Islander, Black, Caucasian, Hispanic/Latin American, International, Multi-racial, Native American, and Other. Student-athletes who selected two or more options were recoded as multi-racial. In addition, because of the small numbers within some race/ethnicity categories, I created an additional measure for descriptive analyses by collapsing categories into: multi-racial (6), white (3), black (2), and other (1). “Other” was a combination of Asian American/Pacific Islander, Hispanic/Latin American, International, Native American, and Other from the original variables.

For cumulative GPA, student-athletes selected from a list of possible GPA ranges: 3.5-4.0 (6), 3.0-3.49 (5), 2.5-2.99 (4), 2.0-2.49 (3), 1.5-1.99 (2), 1.0-1.49 (1), and Below 1.0 (0). Student-athletes were asked to identify whether or not they receive an athletic scholarship, and those students-athletes who checked “yes” were asked to indicate whether they receive a full or partial scholarship. Athletic scholarship status typically represents a high level of athletic performance, particularly within the high-profile sports where full scholarships are common. I corrected the coding for those who responded “no” to receiving a scholarship but also indicated receiving a full or partial athletic scholarship, to indicate they received an athletic scholarship. I also created a new measure for multivariate analyses that combined the two variables for athletic scholarship: full scholarship (2), partial scholarship (1), and no scholarship (0). Student-athletes were asked to indicate their plans to continue to compete in their sport beyond college with the following options: yes (3), probably yes (2), probably no (1), and no (0). I created a new

measure that combined the “yes” and “probably yes” responses to yes (1), and “no” and “probably no” responses to no (0).

For sport played, student-athletes reported all sports that they participate in from a list of sports offered by the participating institutions during the spring semester of 2016. The list of sports was customized for each institution. After data collection, a cumulative list of sports offered across all was compiled and used for coding purposes. Also, responses were recoded for those whose gender/sex did not align with their sport. These responses were coded as “missing” for the sport participation (e.g., a respondent that identified as female and competes in men’s rowing) for consistency among gender/sex and sport participation. Also, respondents whose gender/sex response was missing but was available by the response to sport participation were recoded to include the appropriate gender/sex response (e.g., missing gender/sex responses that also indicated men’s lacrosse as the sport was recoded as male).

Student-athletes were asked to indicate whether or not they were recruited to play intercollegiate athletics and the options available were: walk-on (1) or recruited student-athlete (0). For first language, student-athletes indicated whether or not English was their first language and items were reverse-coded to whether student-athletes were non-native English speakers: yes (1) or no (0). Student-athletes were also asked whether they were in the United States on a student/scholar visa: yes (1) or no (0). For socioeconomic background, student-athletes were presented with the following options: wealthy (4), upper-middle or professional-middle (3), middle-class (2), working-class (1), or low-income or poor (0). These descriptors were chosen because they are used at the

University of Minnesota in surveys designed for students. For parental education level, student-athletes were asked to indicate the highest level of education that any parent/guardian attained: graduate or professional degree (4), college degree (3), attended college but did not graduate (2), high school graduate (1), or attended high school but did not graduate (0). I also created an institutional identification number for each institution which corresponds to the order in which I visited the institution (e.g., the fourth institution I visited was identified as institution 4).

Prior to data collection, I conducted a pretest of the instrument to ensure construct validity for the items and to understand how respondents might interpret the instructions and questions. For the pretest, I used cognitive interviews with former student-athletes who had either graduated from the University of Minnesota or had exhausted their athletic eligibility. Former student-athletes met with me in-person and provided verbal feedback about the instrument's content. I got their feedback on whether the questions were easy or hard to understand and whether or not they measured what they were designed to measure. Reviewers were given a \$25 gift card to a major retailer for their time. I met with three former student-athletes, representing three different sports: women's track and field, women's tennis, and football. One student-athlete identified as a black male and one female student-athlete identified as an international student whose first language was not English. The participants took between seven minutes and 13 minutes to complete the entire survey. Feedback was positive regarding the clarity of the questions and ability to respond to the survey with little difficulty. One participant suggested that as an international student-athlete, her athletic experience was different

than that of her teammates. As a result, two questions were added to the initial demographic section: first language and international student status.

### **Data Collection Procedures**

This study surveyed Division I student-athletes at six institutions during the spring semester of 2016. Student-athletes from all academic levels were invited to participate to determine if there are varying degrees of career adaptability across academic years and to examine if there are trends in the developmental process of career adaptability competencies. Student-athletes from all sports were included.

I received grants from the National Association of Academic Advisors Research Grant program and NASPA IV-East Region Graduate Student Grant program to partially fund costs of travel to the institutions and other research expenses. I compiled the names, job titles and email addresses of institutional contacts from institution websites; all the information gathered was available in the public domain.

I submitted the required forms for approval to conduct this study to the University of Minnesota Institutional Review Board in June 2015. The forms were reviewed by the Institutional Review Board and the study was deemed “exempt from review” status. Approval from the Institutional Review Board was granted in August 2015 (see Appendix A). I did not initiate contact with prospective athletic department personnel before approval was granted. Data collection began after obtaining approval from the University of Minnesota’s Institutional Review Board and in one instance, the

participating institution's Institutional Review Board. Approval was granted to conduct research at that institution by the participating institution's Institutional Review Board.

Initial email invitations were sent between September 2015 and February 2016. Reminder invitations were sent approximately two weeks after the initial invitation; a final reminder was sent about one week after the second reminder. Of the 155 institutions I contacted, 85 did not respond, 38 declined to participate, and 32 expressed an interest in participating in the study. Of the 32 institutions that initially responded, I declined to visit two institutions that required, as a condition, athletic department ownership over the data collected. Of the remaining 30 institutions, I chose to collect data at six institutions. Institutions selected were ones for which I would have access to large numbers of student-athletes and the dates available for data collection fit with my schedule.

I recruited six institutions that participate in Division I student-athletes to participate in this study. I obtained permissions from the lead staff member in academic affairs/student services at each institution and secured travel arrangements to visit each institution to collect data. Data were collected over a period from February 2016 to May 2016.

Data collection varied somewhat by institution and descriptions of the data collection for each institution are presented in Table 6. All arrangements for access to student-athletes were made by the institutional athletic department contact. I attended team meetings, other meetings, workshops, events hosted by the athletic student services units, a student-athlete study-table session, and a Student-Athlete Advisory Council

Table 6: Description of Institutional Data Collection Procedures

Institution #1	<ul style="list-style-type: none"> <li>• Attended spring academic &amp; compliance meetings for 13 of the institution's 16 teams (two teams were traveling for sports and the other was not scheduled)</li> <li>• Collected 238 surveys</li> </ul>
Institution #2	<ul style="list-style-type: none"> <li>• Attended the Student-Athlete Advisory Council meeting</li> <li>• Attended a sophomore leadership institute meeting</li> <li>• Attended a student-athlete nutrition break</li> <li>• Attended a pre-practice meeting for the men's and women's track teams</li> <li>• Collected 110 surveys</li> </ul>
Institution #3	<ul style="list-style-type: none"> <li>• Attended a study hall session for all student-athletes</li> <li>• Collected 55 surveys</li> </ul>
Institution #4	<ul style="list-style-type: none"> <li>• Attended a post-practice meeting for men's lacrosse</li> <li>• Hosted a table in the student-athlete academic center</li> <li>• Attended career development workshop, primary for freshman and sophomore student-athletes</li> <li>• Collected 104 surveys</li> </ul>
Institution #5	<ul style="list-style-type: none"> <li>• Attended a pre-practice meeting for women's softball</li> <li>• Attended an end of year event for all student-athletes</li> <li>• Collected 105 surveys</li> </ul>
Institution #6	<ul style="list-style-type: none"> <li>• Attended a study break event for all student-athletes</li> <li>• Collected 50 surveys</li> </ul>

meeting. When I attended meetings, study tables, workshops and events, I was introduced by a member of the athletic department. At all institutions, student-athletes were invited to participate in the study and each received a packet that included a copy of the consent information form and a copy of the survey (Appendix B). Prior to completing the survey, I read a script that described the nature of the study and answered any questions prospective participants had. Specifically, student-athletes were told that participation in the study was voluntary and declining to participate in the survey would in no way affect their standing with the university, athletic department, or their amount of playing time for their sport. Participants were instructed not to place their names or other identifiable information on the survey, so that the names of the participants remain confidential. Surveys were returned to a box at the front of the room and participants were free to keep the consent information sheet or it was recycled. Participants were not required to sign the consent information sheet because of a provision for implicit consent from the University of Minnesota Institutional Review Board.

At Institution #4, since most attendees at the career event were expected to be freshman and sophomore student-athletes, the athletic staff announced my visit to invite junior and senior student-athletes who were interested in participating in the study. I hosted a table in the student-athlete academic center for student-athletes for 60 minutes during my visit. I individually discussed the contents of the oral script with prospective student-athletes who stopped by my table, gave them a copy of the consent information form and a copy of the survey, and answered questions regarding the study.



**Data Preparation and Analysis**

Northwest Keypunch, a professional data processing service, was hired to enter the data from the paper surveys into a Microsoft Excel file. I reviewed the surveys that were flagged by Northwest Keypunch for interpretation. Items where the intent of the respondent was clear (e.g., the respondent checked both “strongly agree” and “agree”) were coded with the more extreme response (e.g., strongly agree). Where the intent of the respondent was not clear (e.g., the respondent checked both “agree” and “disagree” and there was no neutral option), the response was coded as missing. I imported the Excel file into the Statistical Package for the Social Sciences (SPSS) version 24 data editor. I used SPSS to generate descriptive statistics, an exploratory factor analysis, analyses of variances, a correlation analysis, and regression analyses. The findings are described in the following chapter.

## **Chapter 4: Analysis of Findings**

The purpose of this study is to examine relationships among career adaptability, athletic identity, academic motivation, and role conflict, for Division I student-athletes. In this chapter, I present descriptive and analytical findings about the relationships among the independent and dependent variables. This chapter presents an overview of the characteristics of the participants, a factor analysis, and descriptive statistics for the dependent and independent variables. A correlation analysis of the variables included in the study and the results of a regression analysis are presented, along with a summary of the findings.

### **Descriptive Findings**

#### **Profile of Respondents**

Table 7 presents a profile of the respondents. A majority of student-athletes identify as Caucasian (65.9 percent), while 17 percent identify as black and over 8 percent as multi-racial. Approximately 73 percent of respondents have a 3.0 or higher cumulative grade point average. A majority (61.5 percent) of the student-athletes are freshmen or sophomores. Two-thirds of respondents receive an athletic scholarship, with 30 percent receiving a full athletic scholarship. The vast majority (82.8 percent) of the student-athletes were recruited to their institution and approximately 37 percent of the respondents plan to pursue their sport at the professional, Olympic, or world level after college.

Table 7: Profile of Respondents

	Percentage of Respondents (N=662)
Gender/Sex	
Female	47.0%
Male	53.0
Race/Ethnicity	
Asian American/Pacific Islander	2.0
Black	17.0
Caucasian	65.9
Hispanic/Latin American	3.0
International	1.7
Multi-racial	8.6
Native American	0.6
Other	1.2
Cumulative GPA	
3.5-4.0	34.0
3.0-3.49	38.7
2.5-2.99	20.3
2.0-2.49	6.4
1.5-1.99	0.3
1.0-1.49	0.3
Year in School	
Freshman	33.1
Sophomore	28.4
Junior	26.4
Senior	9.7
5 <sup>th</sup> year senior or beyond	1.5
Graduate student	0.9
Scholarship Status	
Full athletic scholarship	30.0
Partial athletic scholarship	35.9
None	34.1

Table 7: Profile of Respondents (continued)

	Percentage of Respondents (N=662)
Recruited Status	
Recruited student-athlete	82.8%
Walk-on student-athlete	17.2
Professional Aspirations	
Yes	20.2
Probably Yes	16.5
Probably No	21.3
No	39.1
Non-Native English Speaker	
Native English speaker	93.7
Non-native English speaker	6.3
International Student Status (in the USA on a student/scholar visa)?	
Domestic student	88.3
International student	11.7
Socioeconomic Background	
Wealthy	6.0
Upper-middle or professional class	37.2
Middle-class	41.3
Working-class	12.0
Low-income or poor	3.5
Parental Education	
Graduate or professional degree	41.7
College degree	38.0
Attended college but did not graduate	8.6
High school graduate	10.9
Attended high school but did not graduate	0.8

Table 7: Profile of Respondents (continued)

		Percentage of Respondents (N=662)	
High Profile Sport			
Other sport		79.7%	
High-profile sport		20.3	
		<u>Number of Respondents</u>	<u>Number of Respondents</u>
Sport:			
Men's baseball	31	Women's basketball	21
Men's basketball	29	Women's cross country	22
Men's cross country	33	Women's equestrian	4
Men's football	87	Women's field hockey	8
Men's golf	5	Women's golf	10
Men's ice hockey	6	Women's gymnastics	14
Men's lacrosse	26	Women's lacrosse	9
Men's Nordic skiing	2	Women's Nordic skiing	1
Men's polo	1	Women's polo	3
Men's rowing – heavyweight	5	Women's rowing	51
Men's rowing – lightweight	1	Women's sailing	2
Men's soccer	46	Women's soccer	28
Men's sprint football	4	Women's softball	49
Men's squash	1	Women's squash	1
Men's swimming & diving	15	Women's swimming & diving	10
Men's tennis	4	Women's tennis	3
Men's track & field	65	Women's track & field	60
Men's wrestling	14	Women's volleyball	35

Only 6 percent of the respondent group are non-native English speakers and approximately 12 percent are an international student. Most student-athletes are from a middle-class, upper-middle class or wealthy background. Twelve percent of respondents identify their background as working-class and about 4 percent as poor. Almost 80 percent of student-athletes in this sample have a parent who graduated from college or earned a graduate/professional degree. Less than 1 percent of the respondents indicated that neither parent had graduated from high school.

Just over 20 percent of the student-athletes play a high-profile sport, defined for this study as football and men's and women's basketball. The sample includes student-athletes from a total of 36 sports, with an equal distribution among men's and women's sports. No respondents participate in men's gymnastics, women's fencing or women's ice hockey, although these sports are offered at some of the institutions in the sample. The men's sports with the highest participation numbers in the sample include: football (87), track and field (65), soccer (46), cross-country (33), and baseball (31). The women's sports with the highest numbers of student-athletes include: track and field (60), rowing (51), softball (49), volleyball (35), and soccer (28). Within the sample, 57 student-athletes indicated they played two sports.

### **Distribution of Responses**

The distribution of self-report responses on career adaptability are displayed in Table 8. Student-athletes have the highest level of competence in the control items, indicating they assume a high level of responsibility for building their future career.

Table 8: Distribution of Responses: Career Adaptability

Instructions:

*Different people use different strengths to build their careers. No one is good at everything, each of us emphasizes some strengths more than others. Please rate how strongly you have developed each of the following abilities using the scale below.*

<u>Concern</u>	<u>Strongest</u>	<u>Very Strong</u>	<u>Strong</u>	<u>Somewhat Strong</u>	<u>Not Strong</u>
Thinking about what my future will be like	22.5%	38.0%	29.8%	7.9%	1.8%
Realizing that today's choices may shape my future	25.2	45.4	22.6	5.8	0.9
Preparing for the future	23.7	39.0	28.8	7.6	0.9
Becoming aware of the educational and vocational choices I must make	18.8	40.7	32.8	6.9	0.8
Planning how to achieve my goals	23.7	39.9	28.4	7.6	0.3
Concerned about my future	28.7	36.5	25.0	7.2	2.6
<u>Control</u>					
Keeping upbeat	23.6	27.6	35.4	10.7	2.6
Making decisions by myself	26.4	41.2	23.5	7.9	0.9
Taking responsibility for my actions	40.5	40.5	16.3	2.4	0.3

Table 8: Distribution of Responses: Career Adaptability (continued)

	<u>Strongest</u>	<u>Very Strong</u>	<u>Strong</u>	<u>Somewhat Strong</u>	<u>Not Strong</u>
Sticking up for my beliefs	36.4%	39.0%	18.7%	5.4%	0.6%
Counting on myself	38.1	37.7	20.9	3.2	0.2
Doing what's right for me	30.7	41.6	20.9	5.9	0.9
<b><u>Curiosity</u></b>					
Exploring my surroundings	17.2	32.4	33.5	14.0	2.9
Looking for opportunities to grow	26.6	42.2	22.2	7.6	1.4
Investigating options before making a choice	25.1	38.9	25.2	9.6	1.2
Observing different ways of doing things	22.1	34.5	30.3	10.8	2.3
Probing deeply into questions that I have	15.8	29.3	31.3	19.0	4.5
Becoming curious about new opportunities	22.4	37.0	29.6	9.4	1.5



Table 8: Distribution of Responses: Career Adaptability (continued)

<u>Confidence</u>	<u>Strongest</u>	<u>Very Strong</u>	<u>Strong</u>	<u>Somewhat Strong</u>	<u>Not Strong</u>
Performing tasks efficiently	31.4%	41.2%	20.9%	5.9%	0.6%
Taking care to do things well	32.9	39.6	22.9	4.3	0.3
Working up to my ability	33.9	42.9	20.1	2.9	0.2
Overcoming obstacles	39.2	39.4	17.8	3.3	0.3
Solving problems	34.9	41.4	18.9	4.7	0.2

The items that student-athletes rate as strongest or very strong include: taking responsibility for their actions (81 percent), counting on one's self (75.8 percent), sticking up for their beliefs (75.4 percent), and doing what's right for one's self (72.3 percent). These four items rate highest of the career adaptability skills. In addition, student-athletes self-report high levels of competence for the confidence scale which includes items such as performing tasks efficiently, taking care to do things well, working up to one's ability, overcoming obstacles, and solving problems.

The lowest level of skill is curiosity, or the extent to which one is exploring the world of work and actively seeking information about occupations. Only 17.2 percent of respondents view exploring their surroundings as among their strongest abilities. In addition, 23.5 percent of student-athletes perceive a low level of competence with probing deeply into questions, and few (15.8 percent) rate it as one of their strongest competency. Within the concern scale, a small number (18.8 percent) of student-athletes indicate that becoming aware of the educational and vocational choices as their strongest ability; however, a large percentage (73.5 percent) still rate this competency as very strong or strong. The results suggest that student-athletes, while less engaged in active exploration, have an interest in their future and believe in their abilities to manage their career path and choices effectively.

Table 9 presents the distribution of athletic-identity items among the respondents. Responses to the public, or extrinsic, elements of athletic identity were generally dispersed among agree, neither agree or disagree, or disagree part of the scale. About 29

Table 9: Distribution of Responses: Athletic Identity

Instructions:

*For the next 10 questions, indicate on the scale from (SD) strongly disagree to (SA) strongly agree which most closely relates to your personal thoughts, feelings and experiences.*

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neither Agree or Disagree</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
<b><u>Public</u></b>					
My popularity with others is related to my athletic ability.	10.8%	29.1%	35.2%	21.2%	3.8%
I only participate in sports because I am good at them.	6.2	21.1	26.6	36.9	9.2
I often fear people will not like me as much if I do not compete well.	5.1	24.2	27.5	33.3	9.8
My primary reason for competing in my sport is receiving awards and recognition.	3.9	9.1	22.4	45.7	18.9
I fear not receiving the recognition and attention I get from being an athlete when I retire or finish competing.	3.6	20.9	26.2	35.6	13.8

Table 9: Distribution of Responses: Athletic Identity (continued)

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neither Agree or Disagree</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
<b><u>Private</u></b>					
Athletics help me express my emotions and feelings	31.9%	49.2%	13.7%	4.7%	0.5%
It is very important for me to succeed at my sport.	63.3	32.8	3.5	0.5	0.0
I obtain personal satisfaction from participating in athletics.	62.3	33.3	3.2	0.9	0.3
Being an athlete is an important part of who I am.	62.5	30.7	5.5	1.1	0.3
I would feel a great sense of loss if I suddenly were unable to participate in my sport.	54.2	32.2	9.1	3.3	1.2

percent of student-athletes fear that others would not like them as much if they did not compete well, while 27 percent agreed they only participate in sports because they are good at them. A small number of student-athletes (14 percent) indicated that their primary reason for competing in sports was related to recognition and awards. Although most of the responses for the extrinsic aspects of athletic identity are lower than those for the intrinsic aspects, approximately 40 percent of student-athletes feel their popularity is related to their athletic ability. Responses from student-athletes also include high levels of agreement with items related to private, or intrinsic, elements of athletic identity. Over 93 percent of student-athletes indicate that being an athlete was an important part of their identity, and 95 percent find personal satisfaction from sport participation.

Approximately 86 percent of the respondents would feel a great sense of loss if they were unable to participate in their sport. The results suggest that the student-athletes in this sample have a greater affiliation with the personal aspects of sport participation than the recognition given by others.

The distribution of academic motivation items by the respondents is displayed in Table 10. Over 89 percent of student-athletes indicate confidence in earning a college degree, while over 91 percent feel that earning a college degree is the most important reason they were in school. Further, 98.6 percent express confidence in their ability to earn a degree. Only 11.6 percent of student-athletes indicate that achieving a college degree was not a goal for them; however, 38.1 percent agree that the most important reason they are in school is to play their sport. A majority (93 percent) of the respondents chose or will choose a major because it is of interest to their future career plans.

Table 10: Distribution of Responses: Academic Motivation

Instructions:

*Read each statement carefully. Indicate the extent to which you agree with each statement by circling the option that most closely relates to your personal thoughts, feelings and experiences.*

	Very Strongly Agree	Strongly Agree	Agree	Disagree	Strongly Disagree	Very Strongly Disagree
<b><u>Low Academic Motivation</u></b>						
Earning a high grade point average (3.0 or above) is not an important goal for me this year.	4.6%	4.1%	9.0%	21.9%	19.5%	41.0%
During the years I compete in my sport, completing a college degree is not a goal for me.	2.9	2.9	5.8	17.9	16.5	54.1
I have some doubt about my ability to earn high grades in some of my courses.	5.5	12.6	30.0	22.7	12.3	16.9
I am confident that I can earn a college degree.**	72.0	16.2	10.4	1.2	0.0	0.3
It is not important to me to perform better than other students in my courses.	6.2	9.6	27.1	33.0	13.2	10.8
It is not worth the effort to earn excellent grades in my courses.	4.2	4.7	11.5	25.8	20.0	33.8

\*\*item reverse-coded for subsequent analyses

Table 10: Distribution of Responses: Academic (continued)

	<u>Very Strongly Agree</u>	<u>Strongly Agree</u>	<u>Agree</u>	<u>Disagree</u>	<u>Strongly Disagree</u>	<u>Very Strongly Disagree</u>
<b><u>High Academic Motivation</u></b>						
I am confident that I can achieve a high grade point average this year (3.0 or above).	49.7%	18.2%	21.7%	8.3%	1.1%	1.1%
It is important to me to learn what is taught in my courses.	25.9	31.4	35.5	5.3	1.4	0.5
I am willing to put in the time to earn excellent grades.	27.4	29.4	36.5	6.2	0.5	0.0
I will be able to use what is taught in my courses in different aspects of my life outside of school.	22.5	27.9	40.8	7.0	1.1	0.8
I chose (or will choose) my major because it is something I am interested in as a career.	42.9	28.5	21.6	5.2	0.9	0.9
The content of most of my courses is interesting to me.	13.8	26.7	39.9	14.3	2.6	2.7
<b><u>Sport Focused</u></b>						
The most important reason why I am in school is to play my sport.	8.5	10.4	19.2	36.9	12.5	12.4
I get more satisfaction from earning an "A" in a course toward my major than winning a game in my sport.**	12.7	12.6	28.7	31.8	5.8	8.3

\*\*item reverse-coded for subsequent analyses

Table 10: Distribution of Responses: Academic (continued)

	<u>Very Strongly Agree</u>	<u>Strongly Agree</u>	<u>Agree</u>	<u>Disagree</u>	<u>Strongly Disagree</u>	<u>Very Strongly Disagree</u>
I get more satisfaction from winning a game in my sport than from getting an “A” in a course toward my major.	15.2%	12.2%	23.8%	34.5%	7.0%	7.3%
The most important reason why I am in school is to earn a degree.**	46.4	19.4	25.8	5.8	1.8	0.8

\*\*item reverse-coded for subsequent analyses



As presented in Table 10, over 93 percent of student-athletes are willing to put in time to earn excellent grades. Most respondents (89.6 percent) are confident that they will earn a grade point average over 3.0, while only about 18 percent of student-athletes indicate that receiving a 3.0 grade point average or higher was not an important goal for them. Fifty-four percent of respondents prefer to receive an “A” in a course in their major over winning a game in their sport, while 51 percent prefer to win a game over receiving an “A.” These items are not mutually exclusive in this survey. The results suggest that this sample of student-athletes place great value on their educational pursuits and engage in behaviors that are important for academic success.

Table 11 presents the frequencies of responses to the role conflict items. The majority (82.9 percent) of student-athletes believe they can meet both their athletic and academic obligations during the athletic season; however, 41 percent feel their sport participation interferes with their progress towards earning a degree. Forty-one percent are unable to participate in academic and co-curricular opportunities that are important to their major during the athletic season, while 80 percent of student-athletes feel they have the ability to participate in the activities necessary for their athletic success.

Approximately 32 percent of respondents withdrew from a course because of their athletic obligations. The remaining role conflict items are clustered among agree, neither agree or disagree, and disagree responses. Overall, it appears that the student-athletes in this sample can successfully navigate the challenging demands of being both a student and athlete.

Table 11: Distribution of Responses: Role Conflict

Instructions:

*Read each statement carefully. Indicate the extent to which you agree or disagree with each statement by circling the option that most closely relates to your personal thoughts, feelings and experiences.*

	Strongly <u>Agree</u>	Agree	Neither Agree or Disagree	Disagree	Strongly <u>Disagree</u>
<b><u>Balanced</u></b>					
I can meet both my athletic and academic obligations during the athletic season.	31.1%	51.8%	11.7%	4.7%	0.8%
I am able to study as much as I need to succeed in my academic coursework during the athletic season.	16.9	35.9	20.3	22.8	4.1
I am able to participate in opportunities such as research, internships, and student organizations that are important for my academic major during the athletic season.	9.1	23.2	24.6	28.2	14.9
I am able to dedicate as much of my time as necessary to perform well in my sport during the academic year.	14.9	48.9	20.9	13.4	1.8
I am able to participate in all of the opportunities (such as weight-training and viewing competition videos) that are important for my athletic performance during the academic year.	27.1	53.3	10.9	7.6	1.2

Table 11: Distribution of Responses: Role Conflict (continued)

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neither Agree or Disagree</u>	<u>Strongly Disagree</u>
<b><u>Unbalanced</u></b>				
Sometimes I think I can't handle being both an athlete and a student.	10.8%	37.3%	21.5%	23.5% 6.8%
Participation in my sport interferes with my progress towards earning a college degree.	7.9	23.4	27.8	31.3 9.6
I have withdrawn from a course because my athletic obligations interfered with my academic success.	8.0	23.5	14.8	30.9 22.7
The amount of work required in my courses interferes with my athletic goals.	8.8	28.6	27.7	30.3 4.5
The major I am pursuing makes it difficult to devote the amount of time I need to achieve excellence in my sport.	12.4	24.7	27.9	30.3 4.7

### Factor Analysis and Analytical Framework

I performed four factor analyses to determine how the items for career adaptability, athletic identity, academic motivation, and role conflict could be combined into a smaller number of scales for use in regression analyses. The factor analyses appear in Tables 12, 13, 14, and 15. Each table also displays the alpha reliability for the scales derived from each factor.

The factor analysis for the 23 items associated with career adaptability is presented in Table 12. The items yielded four distinct factors. The four factors match the four dimensions of career construction theory and the corresponding instrument developed by Savickas and Porfeli (2012).

The first factor includes items that reflect the *concern* theme of career adaptability – the notion that an individual has an awareness and interest in preparing for and planning for future career decisions. This factor has an alpha reliability of .82. The six items that comprise this scale include: a) thinking about what my future will be like, b) realizing that today's choices may shape my future, c) preparing for the future, d) becoming aware of the educational and vocational choices I must make, e) planning how to achieve my goals, and f) concerned about my future. The second factor, *control*, that an individual assumes ownership and responsibility for creating their career/occupational future contains six measures. This factor has an alpha reliability of .749. These items include: a) keeping upbeat, b) making decisions by myself, c) taking responsibility for my actions, d) sticking up for my beliefs, e) counting on myself, and f) doing what's right for me.

Table 12: Factor Analysis of Career Adaptability Items

<b><u>Concern</u></b> (alpha = .82)	1	2	3	4
Thinking about what my future will be like	<b>.750</b>	.027	.165	.115
Realizing that today's choices may shape my future	<b>.689</b>	.248	.127	.173
Preparing for the future	<b>.793</b>	.105	.169	.199
Becoming aware of the education and vocational choices I must make	<b>.670</b>	.141	.278	.175
Planning how to achieve my goals	<b>.560</b>	.277	.226	.257
Concerned about my future	<b>.543</b>	.158	.059	.117
<b><u>Control</u></b> (alpha = .749)				
Keeping upbeat	.223	<b>.575</b>	.181	.125
Making decisions by myself	.128	<b>.666</b>	.154	.186
Taking responsibility for my actions	.121	<b>.688</b>	.030	.312
Sticking up for my beliefs	.102	<b>.685</b>	.247	.126
Counting on myself	.167	<b>.676</b>	.087	.27
Doing what's right for me	.124	<b>.547</b>	.346	.088

Table 12: Factor Analysis of Career Adaptability Items

<b><u>Curiosity</u></b> (alpha = .836)	1	2	3	4
Exploring my surroundings	.138	.457	<b>.642</b>	-.100
Looking for opportunities to grow	.176	.425	<b>.555</b>	.089
Investigating options before making a choice	.214	.095	<b>.607</b>	.333
Observing different ways of doing things	.109	.162	<b>.731</b>	.301
Probing deeply into questions that I have	.263	.113	<b>.707</b>	.183
Becoming curious about new opportunities	.188	.102	<b>.720</b>	.194
<b><u>Confidence</u></b> (alpha = .854)				
Performing tasks efficiently	.271	.116	.173	<b>.709</b>
Taking care to do things well	.264	.170	.174	<b>.735</b>
Working up to my ability	.265	.309	.188	<b>.702</b>
Overcoming obstacles	.138	.410	.176	<b>.614</b>
Solving problems	.135	.336	.320	<b>.602</b>
<b><u>Adaptability</u></b> (alpha = .920) Scale is the sum of all adaptability items				

The third factor for career adaptability contains items that reflect an individual's active involvement in seeking information about prospective career plans and potential choices, or *curiosity*. The six items that loaded in the curiosity factor are: a) exploring my surroundings, b) looking for opportunities to grow, c) investigating options before making a choice, d) observing different ways of doing things, e) probing deeply into questions that I have, and f) becoming curious about new opportunities. This factor has an alpha reliability of .836. *Confidence*, the fourth factor, encompasses a belief in one's ability to pursue aspirational and realistic career paths, make effective career decisions, and solve career related challenges. This factor has an alpha reliability of .854. The confidence factor entails five measures: a) performing tasks efficiently, b) taking care to do things well, c) working up to my ability, d) overcoming obstacles, and e) solving problems. I created scales for the sets of items that loaded into each factor: concern, control, curiosity, and confidence. In addition, I created an *adaptability* scale which comprises all 23 career adaptability items. This factor has an alpha reliability of .920. Each of the five scales are calculated by taking the mean of the scores of the items that were clustered in the factor analysis and the adaptability composite is the mean of all 23 items.

I performed a second factor analysis using the ten items of athletic identity and the results are presented in Table 13. Two distinct athletic identity factors emerged from the analysis and reflect the framework of Nasco and Webb (2006). The first factor, *public* identity, contains items related to how an individual values the athletic persona that is given by others. Five measures compose public athletic identity: a) my popularity with

Table 13: Factor Analysis of Athletic Identity Items

	1	2
<b><u>Public</u></b> (alpha = .668)		
My popularity with others is related to my athletic ability.	<b>.513</b>	.315
I only participate in sports because I am good at them.	<b>.593</b>	-.092
I often fear people will not like me as much if I do not compete well.	<b>.667</b>	-.047
My primary reason for competing in my sport is receiving awards and recognition.	<b>.791</b>	.022
I fear not receiving the recognition and attention I get from being an athlete when I retire or finish competing.	<b>.696</b>	.087
<b><u>Private</u></b> (alpha = .707)		
Athletics help me express my emotions and feelings.	.088	<b>.530</b>
It is very important for me to succeed at my sport.	.059	<b>.679</b>
I obtain personal satisfaction from participating in athletics.	-.075	<b>.757</b>
Being an athlete is an important part of who I am.	.004	<b>.762</b>
I would feel a great sense of loss if I suddenly were unable to participate in my sport.	.014	<b>.689</b>



others is related to my athletic ability, b) I only participate in sports because I am good at them, c) I often fear people will not like me as much if I do not compete well, d) my primary reason for competing in my sport is receiving awards and recognition, and e) I fear not receiving the recognition and attention I get from being an athlete when I retire or finish competing. This factor has an alpha reliability of .668. *Private* athletic identity, the second factor, entails the internal view of one's self as an athlete. The five items include: a) athletics help me express my emotions and feelings, b) it is very important for me to succeed at my sport, c) I obtain personal satisfaction from participating in athletics, d) being an athlete is an important part of who I am, and e) I would feel a great sense of loss if I suddenly were unable to participate in my sport. This factor has an alpha reliability of .707. I created scales for the sets of items that loaded into each factor: public and private. Each of the two scales are calculated by taking the sum of the scores of the items that were clustered in the factor.

The third factor analysis, academic motivation, included the 16 measures on the instrument used for this study. Table 14 presents the results of this analysis. The first factor, *low academic motivation*, comprises items that indicate little value associated with succeeding academically. Six items loaded on low academic motivation and include: a) earning a high grade point average (3.0 or above) is not an important goal for me this year, b) during the years I compete in my sport, completing a college degree is not a goal for me, c) I have some doubt about my ability to earn high grades in some of my courses, d) I am confident that I can earn a college degree (reverse-coded), e) it is not important

Table 14: Factor Analysis of Academic Motivation Items

	1	2	3
<b><u>Low Academic Motivation</u></b> (alpha = .787)			
Earning a high grade point average (3.0 or above) is not an important goal for me this year.	<b>.763</b>	-.101	.155
During the years I compete in my sport, completing a college degree is not a goal for me.	<b>.769</b>	-.015	.269
I have some doubt about my ability to earn high grades in some of my courses.	<b>.636</b>	-.195	-.214
I am confident that I can earn a college degree.	<b>-.485</b>	.391	.026
It is not important for me to perform better than other students in my courses.	<b>.624</b>	-.041	.113
It is not worth the effort to earn excellent grades in school.	<b>.721</b>	-.126	.306
<b><u>High Academic Motivation</u></b> (alpha = .805)			
I am confident that I can achieve a high grade point average this year (3.0 or above).	-.423	<b>.514</b>	.127
It is important to me to learn what is taught in my courses.	-.180	<b>.777</b>	-.174
I am willing to put in the time to earn excellent grades in my courses.	-.286	<b>.654</b>	-.202
I will be able to use what is taught in my courses in different aspects of my life outside of school.	-.055	<b>.729</b>	-.012
I chose (or will choose) my major because it is something I am interested in as a career.	-.121	<b>.675</b>	-.157
The content of most of my courses is interesting to me.	.112	<b>.740</b>	-.136

Table 14: Factor Analysis of Academic Motivation Items (continued)

<b><u>Sport Focused</u></b> (alpha =.738)	1	2	3
The most important reason why I am in school is to play my sport.	.405	-.028	<b>.648</b>
I get more satisfaction from earning an "A" in a course toward my major than winning a game in my sport.	.235	.311	<b>-.754</b>
I get more satisfaction from winning a game in my sport than from getting an "A" in a course toward my major.	.250	-.020	<b>.822</b>
The most important reason why I am in school is to earn a degree.	-.141	.421	<b>-.559</b>

for me to perform better than other students in my course, and f) it is not worth the effort to earn excellent grades in school. This factor has an alpha reliability of .787.

Six additional measures clustered to form the *high academic motivation* factor, which indicates that a student-athlete places a high value on succeeding academically through directing time and effort to learn course content and earn excellent grades. The high academic motivation factor contains the following items: a) I am confident that I can earn a high grade point average this year (3.0 or above), b) it is important to me to learn what is taught in my courses, c) I am willing to put in the time to earn excellent grades in my courses, d) I will be able to use what is taught in my courses in different aspects of my life outside of school, e) I chose (or will chose) my major because it is something I am interested in as a career, and f) the content of most of my courses is interesting to me. This factor has an alpha reliability of .805.

The third athletic motivation factor is *sport focused*. Sport focus comprises four items that indicate a primary focus on sports over academics. Of the four items, two are reverse-coded as they are opposite to the two other items. The four sport focus items include: a) the most important reason why I am in school is to play my sport, b) I get more satisfaction from earning an “A” in a course toward my major than winning a game in my sport (reverse-coded), c) I get more satisfaction from winning a game in my sport than from getting an “A” in a course toward my major, and d) the most important reason why I am in school is to earn a degree (reverse-coded). This factor has an alpha reliability of .738. I created scales for the sets of items that loaded into each factor: low academic

motivation, high academic motivation, and sport focused. Each of the three scales are calculated by taking the sum of the scores of the items that were clustered in the factor.

A final factor analysis was performed using the ten items that comprise the independent variable role conflict. Two factors were produced and are displayed in Table 15. The first factor, *balanced*, included five items that indicate a student-athletes' ability to simultaneously manage the student and athlete roles. The factor contains the following measures: a) I can meet both my athletic and academic obligations during the athletic season, b) I am able to study as much as I need to succeed in my academic coursework during the athletic season, c) I am able to participate in opportunities such as research, internships, and student organizations that are important for my academic major during the athletic season, d) I am able to dedicate as much of my time as necessary to perform well in my sport during the academic year, and e) I am able to participate in all of the opportunities (such as weight-training and viewing competition videos) that are important for my athletic performance during the academic year. This factor has an alpha reliability of .711.

The second factor, *unbalanced*, is composed of five items that suggest a difficulty in managing these two roles for a student-athletes. The items in this scale are: a) sometimes I think I can't handle being a both an athlete and a student, b) participation in my sport interferes with my progress towards earning a college degree, c) I have withdrawn from a course because my athletic obligations interfered with my academic

Table 15: Factor Analysis of Role Conflict Items

	1	2
<b><u>Balanced</u></b> (alpha = .711)		
I can meet both my athletic and academic obligations during the athletic season.	<b>.654</b>	-.263
I am able to study as much as I need to succeed in my academic coursework during the athletic season.	<b>.763</b>	-.227
I am able to participate in opportunities such as research, internships, and student organizations that are important for my academic major during the athletic season.	<b>.688</b>	-.099
I am able to dedicate as much of my time as necessary to perform well in my sport during the academic year.	<b>.689</b>	-.123
I am able to participate in all of the opportunities (such as weight-training and viewing competition videos) that are important for my athletic performance during the academic year.	<b>.563</b>	-.133
<b><u>Unbalanced</u></b> (alpha = .772)		
Sometimes I think I can't handle being a both an athlete and a student.	-.092	<b>.683</b>
Participation in my sport interferes with my progress towards earning a college degree.	-.146	<b>.771</b>
I have withdrawn from a course because my athletic obligations interfered with my academic success.	-.063	<b>.659</b>
The amount of work required in my courses interferes with my athletic goals.	-.220	<b>.727</b>
The major I am pursuing makes it difficult to devote the amount of time I need to achieve excellence in my sport.	-.107	<b>.726</b>

success, d) the amount of work required in my courses interferes with my athletic goals, and e) the major I am pursuing makes it difficult to devote the amount of time I need to achieve excellence in my sport. This factor has an alpha reliability of .772. I created scales for the sets of items that loaded into each factor: balanced and unbalanced. Each of the two scales are calculated by taking the sum of the scores of the items that were clustered in the factor. The means of the scales for career adaptability, athletic identity, academic motivation, and role conflict are presented in Table 16.

### **Analysis of Variance**

I conducted bivariate analyses to examine relationships among the athletic, academic, and demographic variables in this study and career adaptability, athletic identity, academic motivation, and role conflict. Tables 17, 18, 19, and 20 present one-way analyses of variance for the dependent and independent variables of interest presented in the conceptual framework (see Figure 1) and eleven athletic, academic, and demographic variables: gender/sex, race/ethnicity, athletic scholarship, year in school, recruited status, professional aspirations, high-profile sport, non-native English speaker, international student, socioeconomic status, and parental education. Included each table are the mean values, standard deviations, and F-statistics for each of the scales of career adaptability, athletic identity, academic motivation, and role conflict.

Table 17 presents a one-way analysis of variance in career adaptability scales by student-athletes. The range of the means for the five career adaptability scales is zero to

Table 16: Overall Means for Career Adaptability, Athletic Identity, Academic Motivation, and Role Conflict Scales

	<u>Range</u>	<u>Mean</u>	<u>SD</u>
<b><u>Career Adaptability</u></b>			
Concern	0-4	2.78	.675
Control	0-4	2.91	.619
Curiosity	0-4	2.62	.739
Confidence	0-4	3.05	.682
Adaptability	0-4	2.83	.563
<b><u>Athletic Identity</u></b>			
Public	0-20	8.78	3.43
Private	0-20	17.12	2.46
<b><u>Academic Motivation</u></b>			
Low Academic Motivation	0-25	8.70	5.377
High Academic Motivation	0-30	22.49	4.418
Sport Focused	0-20	8.30	3.943
<b><u>Role Conflict</u></b>			
Balance	0-20	12.89	3.445
Unbalanced	0-20	9.90	4.129



Table 17: Analysis of Variance in Career Adaptability by Academic, Athletic, and Demographic Variables

	<u>Concern</u>		<u>Control</u>		<u>Curiosity</u>		<u>Confidence</u>		<u>Adaptability</u>	
	<u>Mean</u>	<u>(SD)</u>	<u>F</u>	<u>Mean</u>	<u>(SD)</u>	<u>F</u>	<u>Mean</u>	<u>(SD)</u>	<u>Mean</u>	<u>(SD)</u>
Gender/Sex										
Female	2.74	(.663)	1.139	2.99	(.601)	11.247**	2.53	(.752)	2.77	(.558)
Male	2.80	(.686)		2.83	(.630)		2.71	(.717)	2.89	(.563)
Race/Ethnicity										
Black	2.91	(.660)	2.237	2.98	(.613)	0.945	2.83	(.754)	2.93	(.584)
White	2.73	(.668)		2.89	(.629)		2.56	(.726)	2.80	(.551)
Multi-racial	2.83	(.756)		2.96	(.603)		2.68	(.768)	2.87	(.605)
Other	2.82	(.660)		2.97	(.584)		2.68	(.717)	2.88	(.571)
Athletic Scholarship										
Full	2.83	(.693)	1.086	2.94	(.636)	0.280	2.73	(.748)	2.88	(.595)
Partial	2.75	(.650)		2.89	(.649)		2.59	(.742)	2.81	(.566)
None	2.75	(.687)		2.93	(.573)		2.57	(.708)	2.82	(.531)

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Table 17: Analysis of Variance in Career Adaptability by Academic, Athletic, and Demographic Variables (continued)

	Concern		Control		Curiosity		Confidence		Adaptability	
	Mean (SD)	F	Mean (SD)	F	Mean (SD)	F	Mean (SD)	F	Mean (SD)	F
Year in School										
Freshman	2.74 (.671)	1.319	2.88 (.621)	1.265	2.64 (.712)	0.926	2.99 (.657)	1.620	2.80 (.554)	1.353
Sophomore	2.74 (.649)		2.90 (.609)		2.56 (.750)		3.03 (.693)		2.80 (.556)	
Junior	2.81 (.715)		2.95 (.650)		2.62 (.769)		3.09 (.711)		2.86 (.607)	
Senior	2.83 (.686)		2.93 (.587)		2.78 (.621)		3.11 (.677)		2.91 (.502)	
5 <sup>th</sup> Year & beyond	3.13 (.496)		3.32 (.309)		2.63 (.949)		3.36 (.398)		3.10 (.465)	
Graduate student	3.16 (.424)		3.06 (.584)		2.83 (.691)		3.53 (.547)		3.13 (.392)	
Recruited Status										
Recruited	2.78 (.658)	0.026	2.92 (.621)	0.009	2.63 (.747)	.046	3.05 (.688)	0.000	2.84 (.565)	0.004
Walk-on	2.79 (.740)		2.91 (.626)		2.62 (.692)		3.05 (.657)		2.83 (.558)	
Professional Aspirations										
Yes	2.88 (.677)	9.218**	3.07 (.570)	25.267***	2.79 (.718)	19.992***	3.14 (.675)	6.501*	2.96 (.548)	20.945***
No	2.71 (.671)		2.82 (.632)		2.53 (.728)		3.00 (.685)		2.75 (.561)	

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Table 17: Analysis of Variance in Career Adaptability by Academic, Athletic, and Demographic Variables (continued)

	<u>Concern</u>		<u>Control</u>		<u>Curiosity</u>		<u>Confidence</u>		<u>Adaptability</u>	
	<u>Mean(SD)</u>	<u>F</u>	<u>Mean(SD)</u>	<u>F</u>	<u>Mean(SD)</u>	<u>F</u>	<u>Mean(SD)</u>	<u>F</u>	<u>Mean(SD)</u>	<u>F</u>
High-Profile Sport										
High-profile	2.89 (.696)	4.286*	2.96 (.618)	0.999	2.73 (.720)	3.180	3.04 (.683)	0.042	2.90 (.592)	2.208
Other sport	2.75 (.664)		2.90 (.621)		2.60 (.738)		3.05 (.683)		2.82 (.555)	
Non-Native English Speaker										
Native speaker	2.78 (.591)	1.152	2.91 (.622)	0.554	2.61 (.740)	4.734*	3.06 (.681)	0.624	2.83 (.562)	1.222
Non-native speaker	2.90 (.724)		2.99 (.613)		2.88 (.661)		2.97 (.712)		2.93 (.594)	
International Student Status										
Domestic	2.80 (.663)	1.139	2.72 (.574)	8.037**	2.64 (.744)	1.129	3.08 (.672)	5.967*	2.86 (.567)	7.180**
International	2.74 (.663)		2.94 (.624)		2.54 (.668)		2.87 (.741)		2.67 (.515)	

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Table 17: Analysis of Variance in Career Adaptability by Academic, Athletic, and Demographic Variables (continued)

	<u>Concern</u>		<u>Control</u>		<u>Curiosity</u>		<u>Confidence</u>		<u>Adaptability</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Socioeconomic Status										
Wealthy	2.91 (.711)	2.275	2.88 (.679)	2.092	2.83 (.737)	2.290	3.13 (.704)	1.205	2.93 (.570)	2.173
Upper middle	2.78 (.656)		2.89 (.594)		2.56 (.719)		3.07 (.640)		2.81 (.520)	
Middle-class	2.73 (.662)		2.89 (.624)		2.63 (.747)		3.02 (.696)		2.81 (.578)	
Working class	2.79 (.732)		3.01 (.622)		2.66 (.725)		2.99 (.735)		2.86 (.604)	
Low income/poor	3.12 (.650)		3.22 (.706)		2.93 (.773)		3.30 (.726)		3.13 (.634)	
Parental Education										
Grad/prof degree	2.75 (.671)	1.105	2.87 (.623)	1.202	2.61 (.715)	1.610	3.05 (.645)	0.490	2.81 (.529)	0.951
College graduate	2.81 (.654)		2.94 (.592)		2.58 (.760)		3.03 (.707)		2.83 (.575)	
Some college	2.93 (.621)		3.05 (.591)		2.83 (.645)		3.08 (.729)		2.97 (.558)	
HS graduate	2.73 (.755)		2.93 (.692)		2.69 (.780)		3.13 (.643)		2.86 (.620)	
HS attendance	2.61 (1.03)		2.76 (.947)		2.91 (.868)		2.80 (1.35)		2.76 (.944)	

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

four. Results indicate that career adaptability is related to gender/sex, race/ethnicity, professional aspirations, sport participation, native language, and international student status. Males are more likely to have higher scores on the curiosity, confidence, and adaptability scales, whereas females are more likely to have higher scores on the control scale. Student-athletes who identify as black and multi-racial tend to have higher mean scores than those who identify as white on the curiosity scale.

For all of the career scale, there are significant differences by professional aspirations, as those who plan to continue to pursue their sport beyond college are more likely to have higher mean scores. Student-athletes who play a high-profile sport are more likely to be involved in planning for their future work roles than those who play other sports. Non-native English speakers are more likely to seek information about occupations and their requirements than those for whom English is their first language. The control and confidence scales and adaptability composite all had significant differences for international and domestic students. International students are more likely to feel responsibility for building their careers than their domestic peers, but tend to have less confidence in their ability to make career decisions and had lower mean adaptability scores.

The significant differences in athletic identity by athletic, academic, and demographic variables are included in Table 18. The range of the means for the two athletic identity scales is zero to 20. Results indicate that gender/sex, athletic scholarship, recruited athletes, professional sport aspirations, and sport participation are related to athletic identity. Males tend to have higher levels of both private and public athletic

Table 18: Analysis of Variance in Athletic Identity by Academic, Athletic, and Demographic Variables

	<u>Private Athletic Identity</u>		<u>Public Athletic Identity</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Gender/Sex				
Female	16.84 (2.43)	7.621***	8.38 (3.06)	7.605**
Male	17.37 (2.42)		9.12 (3.67)	
Race/Ethnicity				
Black	16.86 (2.42)	1.139	9.41 (3.65)	2.111
White	17.16 (2.48)		8.57 (3.30)	
Multi-racial	16.95 (2.38)		8.63 (3.96)	
Other	17.40 (2.49)		9.18 (3.16)	
Athletic Scholarship				
Full	16.95 (2.62)	1.139	9.33 (3.79)	11.433***
Partial	17.34 (2.40)		9.03 (2.99)	
None	17.02 (2.35)		7.86 (3.27)	
Recruited Status				
Recruited	17.22 (2.41)	6.991**	8.85 (3.41)	1.768
Walk-on	16.54 (2.68)		8.38 (3.42)	
Professional Aspirations				
Yes	17.91 (2.19)	41.374***	9.62 (3.83)	25.519***
No	16.65 (2.50)		8.23 (3.05)	

Significance levels: \*: p&lt;.05; \*\*: p&lt;.01; \*\*\*: p&lt;.001

Table 18: Analysis of Variance in Athletic Identity by Academic, Athletic, and Demographic Variables (continued)

	<u>Private Athletic Identity</u>		<u>Public Athletic Identity</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Year in School				
Freshman	17.40 (2.20)	1.909	9.24 (3.47)	1.471
Sophomore	17.07 (2.52)		8.62 (3.24)	
Junior	16.85 (2.66)		8.55 (3.43)	
Senior	16.68 (2.56)		8.16 (3.30)	
5 <sup>th</sup> year & beyond	18.10 (2.38)		9.00 (5.62)	
Graduate student	18.17 (1.72)		8.33 (3.01)	
High-Profile Sport				
High-profile	16.61 (2.69)	6.209*	9.28 (3.86)	3.882*
Other sport	17.21 (2.69)		8.63 (3.26)	
Non-Native English Speaker				
Native speaker	17.05 (2.47)	2.876	8.72 (3.42)	1.856
Non-Native speaker	17.74 (2.37)		9.48 (3.35)	
International Student Status				
Domestic	17.11 (2.39)	0.049	8.68 (3.41)	2.254
International	17.04 (2.94)		9.31 (3.37)	

Significance levels: \*: p&lt;.05; \*\*: p&lt;.01; \*\*\*: p&lt;.001

Table 18: Analysis of Variance in Athletic Identity by Academic, Athletic, and Demographic Variables (continued)

	<u>Private Athletic Identity</u>		<u>Public Athletic Identity</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Socioeconomic Status				
Wealthy	16.67 (3.11)	.613	8.68 (2.89)	1.116
Upper middle class	17.12 (2.28)		8.48 (3.48)	
Middle-class	17.21 (2.47)		8.88 (3.41)	
Working class	17.03 (2.39)		9.37 (3.61)	
Low income/poor	16.70 (3.23)		8.59 (2.65)	
Parental Education				
Grad/prof degree	16.95 (2.51)	0.755	8.39 (3.27)	2.663
College graduate	17.27 (2.34)		8.83 (3.40)	
Some college	17.23 (2.37)		9.05 (3.22)	
HS graduate	16.92 (2.69)		9.59 (3.88)	
HS attendance	17.80 (3.83)		11.20 (4.92)	

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$



identity than females, as do those who aspire to compete after college, compared to those who do not. Student-athletes who receive either a full or partial athletic scholarship have higher levels of public athletic identity, indicating a greater responsiveness to the rewards and recognition from others associated with sport participation than those who do not receive an athletic scholarship. The internal connection to the athletic persona was found to be greater among student-athletes who were recruited to their sport. Student-athletes who play a high-profile sport are more likely to be drawn to the rewards and recognition associated with sport participation than those who do not, while student-athletes who do not play high-profile sports tend to have greater connection to the intrinsic aspects of athletic identity.

Table 19 presents an analysis of variance in academic motivation by athletic, academic, and demographic variables. The range of the means for the three academic motivation scales is zero to 30. Results indicate significant differences in academic motivation scales by gender/sex, race/ethnicity, athletic scholarship, recruited student-athlete, plans to compete after college, sport participation, native language, international student status, socioeconomic background and parental education. Differences in gender/sex are found across all three scales: low academic motivation, high academic motivation, and sport focused. Males are more likely than females to have lower levels of academic motivation and a greater focus on sport, whereas females tend to have higher levels of academic motivation. White student-athletes have the highest means scores for behaviors important for academic success, whereas black student-athletes have the lowest levels of academic motivation.

Table 19: Analysis of Variance in Academic Motivation by Academic, Athletic, and Demographic Variables

	Low Academic <u>Motivation</u> <u>Mean (SD) F</u>		High Academic <u>Motivation</u> <u>Mean (SD) F</u>		<u>Sport Focused</u> <u>Mean (SD) F</u>	
Gender/Sex						
Female	7.41 (4.80)	35.326***	23.50 (3.92)	32.002***	6.85 (3.25)	85.974***
Male	9.85 (5.61)		21.58 (4.64)		9.59 (3.25)	
Race/Ethnicity						
Black	10.62 (6.16)	9.546***	21.35 (4.67)	4.178**	8.46 (3.66)	2.131
White	7.95 (4.88)		22.90 (4.32)		8.17 (3.94)	
Multi-racial	10.21 (6.23)		22.00 (4.32)		7.73 (3.99)	
Other	9.26 (5.23)		22.04 (4.48)		9.43 (4.33)	
Athletic Scholarship						
Full	10.24 (6.26)	14.069***	21.49 (4.78)	7.515**	9.47 (3.78)	16.910***
Partial	8.24 (4.99)		22.97 (4.05)		8.30 (4.04)	
None	7.57 (4.64)		22.95 (4.34)		7.22 (3.75)	
Recruited Status						
Recruited	8.93 (5.46)	5.778*	22.36 (4.43)	3.127	8.61 (3.97)	22.229***
Walk-on	7.58 (4.96)		23.18 (4.39)		6.68 (3.43)	
Professional Aspirations						
Yes	10.38 (6.09)	39.407***	21.59 (4.89)	17.355***	10.60 (3.84)	161.296***
No	7.68 (4.65)		23.08 (3.96)		6.90 (3.30)	

Significance levels: \*: p&lt;.05; \*\*: p&lt;.01; \*\*\*: p&lt;.001

Table 19: Analysis of Variance in Academic Motivation by Academic, Athletic, and Demographic Variables (continued)

	Low Academic		High Academic		Sport Focused	
	<u>Motivation</u>		<u>Motivation</u>		<u>Sport Focused</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Year in School						
Freshman	8.68 (5.39)	1.769	22.58 (4.17)	1.636	8.52 (3.84)	1.398
Sophomore	8.92 (5.14)		22.66 (4.18)		7.65 (3.96)	
Junior	8.66 (5.69)		22.55 (4.83)		8.53 (3.89)	
Senior	8.02 (5.13)		21.45 (4.71)		8.68 (4.46)	
5 <sup>th</sup> year & beyond	12.56 (5.98)		21.11 (4.08)		8.89 (3.59)	
Graduate student	5.00 (2.68)		25.83 (3.60)		8.17 (2.71)	
High-Profile Sport						
High-profile	10.68 (6.12)	22.660***	21.26 (4.85)	12.880***	9.43 (3.56)	14.093***
Other	8.20 (5.07)		22.81 (4.46)		7.97 (3.99)	
Non-Native English Speaker						
Native speaker	8.56 (5.34)	5.087*	22.52 (4.46)	0.110	8.17 (3.93)	5.087*
Non-Native speaker	10.51 (5.72)		22.28 (3.99)		9.63 (4.03)	
International Student Status						
Domestic	8.56 (5.36)	2.890	22.61 (4.41)	3.099	8.10 (3.97)	8.972***
International	9.68 (5.49)		21.65 (4.49)		9.55 (3.63)	

Significance levels: \*: p&lt;.05; \*\*: p&lt;.01; \*\*\*: p&lt;.001

Table 19: Analysis of Variance in Academic Motivation by Academic, Athletic, and Demographic Variables (continued)

	Low Academic		High Academic		Sport Focused	
	<u>Motivation</u>		<u>Motivation</u>		<u>Sport Focused</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Socioeconomic Status						
Wealthy	7.95 (4.99)	12.854***	22.68 (4.11)	6.067***	7.08 (3.88)	7.415***
Upper middle class	7.34 (4.89)		23.22 (4.15)		7.56 (3.89)	
Middle-class	8.92 (4.99)		22.44 (4.26)		8.48 (3.67)	
Working class	11.22 (6.28)		20.42 (5.08)		9.67 (4.44)	
Low income/poor	13.09 (6.73)		22.09 (5.35)		10.60 (3.96)	
Parental Education						
Grad/prof degree	7.77 (4.82)	9.695***	23.18 (4.07)	4.168**	7.71 (3.66)	6.921***
College graduate	8.44 (5.28)		22.38 (4.36)		8.14 (3.86)	
Some college	10.31 (5.59)		21.35 (4.66)		9.70 (4.91)	
HS graduate	11.78 (6.26)		21.46 (5.13)		9.41 (3.84)	
HS attendance	10.80 (7.12)		19.6 (5.90)		13.40 (3.85)	

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Further, student-athletes who receive a full athletic scholarship are more likely to be focused on their sport and place less value on doing well academically than those student-athletes who receive a partial or no athletic scholarship. Higher levels of academic motivation are also found among student-athletes who were not recruited, do not plan to compete after college, and do not play a high-profile sport. Student-athletes who were recruited, plan to compete after college, and play a high-profile sport demonstrate a greater focus on sports and a lower concern about their academic success.

There are also significant differences among all three scales across both socioeconomic status and parental education. Academic motivation varies by income, as lower levels of academic motivation and a greater focus on sport over academics is found among student-athletes from less affluent backgrounds. In particular, working class student-athletes have the lowest mean scores for high academic motivation scale, compared to all other income levels. Notably, student-athletes from low income or poor backgrounds have higher levels of academic motivation than do student-athletes from working class backgrounds. In addition, student-athletes who have higher levels of parental education were more likely to engage in behaviors important for academic success, whereas those with parents who have lower levels of education tend to be less motivated to succeed academically and be more focused on their sport.

The results of the one-way analysis of variance in role conflict scales are displayed in Table 20. The range of the means for the two role conflict scales is zero to 20. No statistically significant differences in the balance scale were found by athletic, academic, and demographic variables. The unbalanced scale, defined as difficulties in

Table 20: Analysis of Variance in Role Conflict by Academic, Athletic, and Demographic Variables

	<u>Balanced</u>		<u>Unbalanced</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Gender/Sex				
Female	12.73 (3.28)	1.216	9.80 (4.00)	0.325
Male	13.03 (3.59)		9.99 (4.24)	
Race/Ethnicity				
Black	13.15 (3.72)	1.345	10.81 (4.29)	2.824*
White	12.72 (3.48)		9.59 (4.13)	
Multi-racial	13.00 (2.82)		10.41 (3.80)	
Other	13.59 (3.23)		9.95 (3.95)	
Athletic Scholarship				
Full	12.82 (3.53)	0.253	10.72 (3.97)	10.842***
Partial	12.76 (3.36)		10.00 (4.04)	
None	12.99 (3.47)		8.89 (4.09)	
Recruited Status				
Recruited	12.81 (3.45)	2.442	10.11 (4.11)	8.050**
Walk-on	13.37 (3.50)		8.38 (3.42)	
Professional Aspirations				
Yes	13.11 (3.46)	1.643	10.40 (4.30)	6.109*
No	12.75 (3.44)		9.57 (3.94)	

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Table 20: Analysis of Variance in Role Conflict by Academic, Athletic, and Demographic Variables (continued)

	<u>Balanced</u>		<u>Unbalanced</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Year in School				
Freshman	13.14 (3.26)	0.667	9.95 (3.76)	1.118
Sophomore	12.57 (3.50)		10.32 (4.30)	
Junior	12.96 (3.50)		9.63 (4.38)	
Senior	12.95 (3.60)		9.08 (3.77)	
5 <sup>th</sup> year & beyond	12.10 (4.09)		10.30 (2.50)	
Graduate student	12.83 (4.54)		9.00 (7.56)	
High-Profile Sport				
High-profile	12.93 (3.47)	0.007	10.95 (4.08)	10.865**
Other sport	12.90 (3.47)		9.62 (4.12)	
Non-Native English Speaker				
Native speaker	12.86 (3.47)	1.282	9.88 (4.14)	0.066
Non-Native speaker	13.49 (3.26)		10.05 (3.99)	
International Student Status				
Domestic	12.90 (3.46)	0.024	9.89 (4.16)	0.012
International	12.84 (3.46)		9.95 (3.97)	

Significance levels: \*: p&lt;.05; \*\*: p&lt;.01; \*\*\*: p&lt;.001

Table 20: Analysis of Variance in Role Conflict by Academic, Athletic, and Demographic Variables (continued)

	<u>Balanced</u>		<u>Unbalanced</u>	
	<u>Mean (SD)</u>	<u>F</u>	<u>Mean (SD)</u>	<u>F</u>
Socioeconomic Status				
Wealthy	13.46 (3.35)	0.569	9.44 (4.11)	1.453
Upper middle class	12.78 (3.60)		9.55 (4.05)	
Middle-class	12.84 (3.35)		9.97 (4.09)	
Working class	12.96 (3.48)		10.70 (4.43)	
Low income/poor	13.59 (3.47)		10.61 (2.65)	
Parental Education				
Grad/prof degree	12.75 (3.64)	0.654	9.55 (4.09)	2.435*
College graduate	13.00 (3.24)		9.89 (4.21)	
Some college	13.02 (3.13)		10.07 (3.89)	
HS graduate	12.94 (3.78)		11.18 (4.17)	
HS attendance	15.00 (3.39)		8.20 (3.11)	

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$



managing the student and athlete roles, is associated with race/ethnicity, athletic scholarship, recruited to play, professional aspirations, sport participation, and parental education. Student-athletes who identify as black or multi-racial are more likely to indicate difficulties balancing the student and athlete roles than white student-athletes or student-athletes of other race/ethnicities.

In addition, lower levels of role conflict are found among student-athletes who do not receive an athletic scholarship when compared to those who receive a full or partial athletic scholarship. Student-athletes who are less likely to be challenged with navigating the both roles include those who were not recruited, do not plan to continue their sport beyond college, or do not play a high-profile sport. Higher levels of role conflict are found among student-athletes whose parents have either graduated from high school or have attended some college, than among those whose parents have other levels of education.

## **Analytical Findings**

### **Correlation Analysis**

To determine which variables would be included in the final multivariate regression analysis, I performed a Pearson correlation analysis. The complete correlation matrix is presented in Appendix C. After reviewing the highly correlated variables, I removed several potential scales from the independent variables of interest and one potential control variable to avoid multicollinearity.

I eliminated two academic motivation scales and one role conflict scale from the subsequent regression analysis. There were high correlations among the academic motivation factors, so I chose to remove low academic motivation and sport focused. These two scales had little association with the dependent variable. In addition, low and high academic motivation are inversely related concepts, but conceptually similar. Low academic motivation was dropped to avoid redundancy. Upon review of the items comprised in the sport focused measure, half of the items were inverses of the other items, so this scale was thought to add little value to the analysis.

The two role conflict scales also had high negative correlations with each other, as well as with the high and low academic motivation factors. Upon review, the items in the balanced and unbalanced factors were conceptually similar. As the balanced factor involves behaviors that exemplify an ability to manage athletic and academic responsibilities, I chose to use the balanced factor in subsequent analysis. The scales removed for academic motivation and role conflict eliminated any potential statistical interference and redundancy. In the new model, academic motivation is comprised of the high academic motivation factor and role conflict is defined by the balance factor. The potential control variable removed from subsequent analyses was cumulative grade point average. Each of the academic motivation and role conflict scales were highly correlated with cumulative grade point average, so it was eliminated from the final regression model.

## **Regression Analysis**

Table 21 presents the results of a regression analysis of career adaptability on the other variables in the conceptual framework. I conducted five regression analyses, one for each of the four scales of career adaptability and one for the adaptability composite. The independent variables were entered into the regression model all together. Athletic identity, academic motivation, and role conflict have statistical associations with career adaptability.

In particular, public (extrinsic) athletic identity is negatively associated with career control, a sense of ownership for building one's career, and career confidence. Placing high value on the recognition and rewards that come with being an athlete are associated with lower levels of ownership for one's career future and confidence. In contrast, private (intrinsic) athletic identity is positively associated with career control, curiosity, confidence, and the adaptability composite. Student-athletes who derive personal satisfaction from sport participation assume greater ownership for their career path, have higher engagement in career exploration, and have more confidence in their ability to make effective career decisions.

Academic motivation is positively related to all four dimensions of career adaptability, as well as the adaptability composite. Student-athletes who have a strong desire to succeed academically have higher levels of career concern, control, curiosity, and confidence. In addition, role conflict is associated with the career adaptability composite. The ability to balance being a student and an athlete is positively associated with career adaptability competencies.

Table 21: Regression of Career Adaptability on Athletic Identity, Academic Motivation, Role Conflict, and Academic, Athletic and Demographic Variables (Standardized Coefficients)

	<u>Concern</u>	<u>Control</u>	<u>Curiosity</u>	<u>Confidence</u>	<u>Adaptability</u>
<u>Athletic Identity</u>					
Public	.039	-.101*	-.026	-.086*	-.048
Private	.055	.157***	.096*	.171***	.141**
<u>Academic Motivation</u>					
High academic motivation	.290***	.209***	.246***	.308***	.316***
<u>Role Conflict</u>					
Balanced	.114	.052	.079	.075	.098*
<u>Male (referent group)</u>					
Female	-.025	-.122**	-.128**	-.106*	-.115*
<u>White (referent group)</u>					
Asian/Pacific Islander	-.009	.032	-.009	.020	.010
Black	.086	.023	.107*	-.009	.067
Hispanic/Latin American	.060	.030	.063	.031	.056
International	-.029	-.003	-.069	-.050	-.048
Multi-racial	.064	.045	.040	.010	.049
Native American	.012	.004	-.029	-.017	-.010
Other race/ethnicity	.004	.024	.043	.028	.030
<u>Year in school</u>	.064	.040	.028	.088*	.065

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Table 21: Regression of Career Adaptability on Athletic Identity, Academic Motivation, Role Conflict, and Academic, Athletic and Demographic Variables (Standardized Coefficients) (continued)

	<u>Concern</u>	<u>Control</u>	<u>Curiosity</u>	<u>Confidence</u>	<u>Adaptability</u>
Athletic scholarship	.008	-.013	.134*	.057	.061
Professional aspirations	.104*	.150**	.111*	.101*	.138**
High-profile sport	.030	-.012	-.043	-.033	-.018
Recruited student-athlete	-.010	-.004	.026	-.012	.001
Native English speaker (referent group)	-	-	-	-	-
Non-native English speaker	-.041	.024	.073	-.031	.037
Domestic student (referent group)	-	-	-	-	-
International student	-.123**	-.147**	-.068	-.090*	-.127**
Socioeconomic status	.031	-.041	.049	.036	.024
Parental education level	-.033	-.032	-.039	-.082	-.054
Institution 1 (referent group)	-	-	-	-	-
Institution 2	-.079	-.079	.010	.024	-.040
Institution 3	-.057	-.083*	-.028	-.084*	-.077
Institution 4	-.056	-.018	.017	-.023	-.020
Institution 5	.018	.092	.073	.029	.068
Institution 6	.024	.047	.031	-.012	.026
R <sup>2</sup>	.206***	.217***	.198***	.241***	.279***
Adjusted R <sup>2</sup>	.169***	.180***	.161***	.205***	.246***

Significance levels: \*: p<.05; \*\*: p<.01; \*\*\*: p<.001

Several athletic, academic, and demographic factors are significantly related to career adaptability in this study. Female student-athletes are likely to have lower levels of career control, curiosity, and confidence than males. While there was no significant difference among female and male student-athletes for career concern, female student-athletes are likely to have lower scores on the career adaptability composite than males. Student-athletes who identify as black are more likely to be actively seeking information about occupations (curiosity) than those who identify as white. Results from the regression analysis also indicate that the ability to make effective career choices grows over time for student-athletes, as year in school has a positive relationship with career confidence. In addition, student-athletes who receive an athletic scholarship are likely to have higher career curiosity scores than those who do not.

All four dimensions and the career adaptability composite are also related to student-athletes' professional sport aspirations. Planning to continue competing in sport after college is positively associated with planning for future career moves, assuming ownership for building one's career, actively exploring future occupations, and confidence in the ability to make effective and realistic career decisions. The results also demonstrate differences in career adaptability among international and domestic student-athletes. Being an international student-athlete is negatively associated with all four career adaptability dimensions and the composite, as international student-athletes have lower levels of career concern, control, confidence, and career adaptability than their domestic student-athlete peers.

## **Conclusion**

The results from the statistical analysis demonstrate that each of the main independent variables in this study have a statistical relationship with student-athletes' ability to prepare for and manage one's career choices. Private athletic identity, academic motivation, and role conflict are positively associated with components of career adaptability. Student-athletes who derive personal satisfaction from their sport participation, who have a strong desire to excel academically and who can successfully manage the competing demands of their athletic responsibilities and academic obligations possess greater career competencies and skills. In addition, private (intrinsic) athletic identity and academic motivation are positively associated with three of the dimensions of career adaptability – control, curiosity, and confidence. Academic motivation also has a positive relationship with the concern dimension and emerged as influential across all aspects of career adaptability. Public athletic identity is negatively associated with the control and confidence dimensions.

The most significant control variable found in this study is a student-athlete's plan to compete professionally after college, having positive relationships with career adaptability and each of its dimensions. In addition, gender/sex and international student status had a significant negative relationship with career adaptability and most of its dimensions. The findings confirm the use of athletic identity, academic motivation, and role conflict as constructs for understanding the career adaptability of Division I student-athletes. The conclusions from this study suggest implications for theory and practice for

athletic department administrators and career development practitioners, as well as opportunities for future research about the career adaptability of student-athletes.



## **Chapter 5: Discussion**

Research indicates that few student-athletes engage in extensive career planning, and that, even with transferable skills gained from athletics, student-athletes often feel underprepared for their futures. Many student-athletes also aspire to play professional sports, although relatively few will ultimately compete in their sport beyond college. Understanding the relationships among career development, athletic identity, academic motivation, and role conflict is necessary for institutions to support student-athletes' transitions beyond college.

The purpose of this study has been to investigate the relationships among career adaptability, athletic identity, academic motivation, and role conflict for Division I student-athletes. Career adaptability, the dependent variable, includes skills and competencies necessary to manage career challenges, transitions, and decisions over a lifetime. Athletic identity is operationalized to include both public identity, the external rewards and recognition one receives from others related to their athletic persona, and private identity, the intrinsic satisfaction one receives from sport participation. The two other variables of interest are academic motivation, the desire to excel academically, and role conflict, the ability to manage the obligations associated with being a student and an athlete. Variables that might affect these relationships, such as aspirations to play professional sports, sport participation, and international student status, are also included in the study.

The findings indicate that private identity, academic motivation, and role balance are positively associated with career adaptability. Greater levels of career adaptability are found among student-athletes who find personal satisfaction from sport participation, who direct efforts towards academic success, and who can balance their academic and athletic obligations. Private athletic identity is also associated with three of the four dimensions of career adaptability: control, curiosity, and confidence. Public athletic identity is negatively associated with career control and confidence, indicating that those who value rewards and recognition from others are less likely to assume ownership for their career planning; they are also less confident of their ability to navigate their future career.

Student-athletes who have a strong desire to excel academically have higher levels of overall career adaptability and its four dimensions. Planning to compete professionally in sports after college is also positively associated with career adaptability and its four dimensions. There were differences by gender/sex and international student status, as females and international student-athletes had lower levels of career competencies across three dimensions and the career adaptability composite. The results from this study validate athletic identity, academic motivation, and role conflict as appropriate constructs for understanding the career adaptability of Division I student-athletes.

## **Discussion**

The findings in this current study add to the research about student-athletes' career development. Early research identifies a gap in Division I student-athletes' career development, demonstrating that when compared to their non-athlete peers, student-athletes' have lower levels of career development (Blann, 1985; Kennedy & Dimick, 1987; Martens & Cox, 2000; McQuown Linnemeyer & Brown, 2010; Murphy et al., 1996; Rivas Quiñones, 2002; Smallman & Sowa, 1996; Sowa & Gressard, 1983). As the present study focuses exclusively on the career competencies of Division I student-athletes, it does not address the gap others have found between student-athletes' career development and that of their non-athletic peers.

More recent research suggests that many student-athletes feel underprepared to transition to beyond college, particularly to work roles outside of sports (Henderson, 2014). Career counseling practice continues to evolve, shifting from a focus on career choice readiness to one that recognizes the ever-changing employment landscape and prioritizes the development of skills that assist individuals in coping with such fluctuations and career decisions throughout their lives. The current study adds to this body of research by utilizing this contemporary view of career development, demonstrated through the choice of Savickas' (1997) career adaptability as the dependent variable. One contribution of the present study is identifying the specific competencies that student-athletes have that are vital to navigating a fulfilling career future. The strongest career-adaptability dimensions of the student-athletes in this study are control, an optimistic attitude towards their future, and confidence, believing in their ability to

manage their career decisions. These findings appear to refute Henderson's (2014) findings, as the student-athletes in this study expressed confidence in their career futures.

In addition, the conceptual framework of this study complements Navarro's (2014) work. Navarro conducted a qualitative study that found career construction theory (Savickas, 2005) to be an appropriate model through which to view Division I student-athletes' career development, and identified factors that influence their career development. The conceptual framework employed in the present study is based on career construction theory and provides quantitative evidence for the career adaptability competencies that student-athletes possess. Navarro also noted that the student-athletes' preparation for the transition beyond college was of "heightened focus during the senior year" (p. 232). This study provides quantitative evidence of this finding, as levels of career confidence are positively associated with year in school.

In 2015, Navarro also noted that balancing student and athletic responsibilities is influential to student-athlete's choice of a major, which she identified as an aspect of their career development process. The role conflict construct is conceptualized in the present study as student-athletes' ability to manage academic and athletic obligations. The present study also extends Navarro's (2014) research by considering additional factors that influence student-athletes' career development through its quantitative framework. The findings of this study provide evidence that athletic identity, academic motivation, and role conflict are associated with the development of Division I student-athletes' career competencies.

In addition, many student-athletes aspire to continue to compete in their sport at a professional level while few will realize that opportunity. The findings in this study mirror others, as many Division I student-athletes indicate that it is at least somewhat likely they will continue to pursue their sport beyond college (Houle & Kluck, 2015; Tyrance et al., 2013). In this study, however, a greater percentage of the student-athletes expect to participate in sport beyond college (36.7 percent), compared to the findings of Houle and Kluck (24 percent) and Tyrance et al. (26.2 percent). The percentage of student-athletes who anticipate continuing their sport in these studies, as well as the NCAA's (2015) data (35.2 percent), suggest that student-athletes may continue to have unrealistic expectations of their future sport participation.

Research about the relationships between professional aspirations and career development has produced inconclusive results. Brown and Hartley (1998) found that student-athletes with an expectation to play professionally had lower levels of career maturity. While Brown and Hartley's study had a relatively low percentage (19 percent) who planned to continue their sport, the findings in the present study contradict those results. In contrast, Houle and Kluck (2015) found no relationship between professional aspirations and career maturity, while Tyrance et al. (2013) found a positive association between professional aspirations and one of the three career measures, career optimism. In the present study, professional aspirations are positively associated with career adaptability and each of its dimensions.

Many previous studies have considered how athletic identity may affect student-athletes' career development with conflicting results. Several studies found no

relationship among athletic identity and career development measures (Brown & Hartley, 1998; Brown et al., 2000; Hook, 2012). Tyrance et al. (2013), however, utilized the Career Futures Inventory with Division I student-athletes at multiple institutions and observed that career adaptability (a different measure than the one used in this study) and career optimism are negatively associated with athletic identity. Higher levels of athletic identity are associated with lower levels of career development.

Likewise, Murphy et al. (1996) and Houle and Kluck (2015) found that athletic identity and career maturity are inversely related for Division I student-athletes. Whipple's (2009) study of Division III student-athletes also found that lower levels of career maturity are associated with higher athletic identity. In most of the previous studies, athletic identity was conceptualized using Brewer et al.'s (1993) instrument, which does not examine multiple dimensions of athletic identity. The present study utilizes Nasco and Webb's (2006) multi-dimensional model of athletic identity. The conflicting results among these studies may be attributed to how athletic identity was operationalized in the previous studies.

Whipple's study and the current study utilized Nasco and Webb's (2006) two-dimension model for athletic identity; however, findings from the current study contradict those of Whipple. In this study, private athletic identity is positively associated with career adaptability and three of its dimensions, and public athletic identity is negatively associated with two dimensions of career adaptability. Athletic identity may be constructed differently for Division III student-athletes, although the Division I athletic environment is generally thought to have a greater emphasis on sport participation than

other athletic divisions. The two studies had different measures for the dependent variable, so the differences in findings might be attributed to the career development measures, rather than differences in the athletics environment.

The findings in this study also contradict Sowa and Gressard's (1983) suggestion that student-athletes have difficulty formulating educational goals and do not derive satisfaction from educational experiences. In general, according to their self-reports, the student-athletes who participated in this study are highly motivated to excel academically, take efforts to achieve strong grades, and indicate an interest in their chosen majors and coursework. Earlier scholarship describes academic motivation as a strong predictor of grade point average for student-athletes (Simons & Van Rheene, 2000; Gaston-Gayles, 2004; Carter, 2012). There are significant correlations between academic motivation and cumulative grade point average in this study. As academic motivation is positively associated with all aspects of career adaptability, the present study extends the conceptual framework for student-athletes' career development by establishing academic motivation as an influential construct.

Previous research presents challenges that student-athletes experience as they manage the obligations associated with being a student and an athlete (Adler & Adler, 1987; Killeya-Jones, 2005; Finch 2009). This research affirms that student-athletes who are able to manage their often-conflicting responsibilities have greater levels of psychological adjustment and satisfaction. Finch (2009) proposed that the relationship between the athletic- and student-identity roles would be related to student-athletes' career decision-making self-efficacy, and operationalized these concepts with athletic and

student identity measures. Finch's findings found a negative relationship among student and athletic identity, a positive relationship between student identity and career decision-making self-efficacy, and no relationship between career decision-making self-efficacy and athletic identity. Finch concludes that strengthening student identity is positively associated with student-athletes' career development.

The findings in the present study complement Finch's (2009) findings as student-athletes who manage the competing demands of their athletic responsibilities and academic obligations possess greater career competencies. The present study also extends this research, operationalizing role conflict through the scale I created to assess the ability to achieve balance in these multiple roles. In addition, this study considers role balance in tandem with other factors that might affect student-athletes' career development.

The findings of the present study extend the research about student-athletes' career development. While past research has primarily focused on understanding how athletic identity affects student-athletes' career development, this study considers academic motivation and role conflict as related constructs and confirms their influence on career adaptability. In addition, the study broadens the conceptual framework of the factors associated with Division I student-athletes career competencies by demonstrating the relationship among athletic identity, academic motivation, role conflict, and career adaptability with quantitative evidence. The findings of this study present a more complex view of the factors related to student-athletes' career development, as well as provide critical insight for athletic department and career services staff to facilitate student-athletes' successful transition beyond college.



### **Implications for Theory**

The findings in this study suggest several implications for theory. First, the results provide greater clarity to research regarding athletic identity's relationship with career development for student-athletes. Brewer et al.'s (1993) measure for athletic identity has been criticized as a psychosocial construct (Hale, James, & Stambulova, 1999), and studies have had conflicting results as to its influence on various measures of student-athletes' career development. Utilizing Nasco & Webb's (2006) multi-dimensional construct, distinguishing private and public athletic identity, provides a new approach to viewing and operationalizing athletic identity. Separating these constructs permits consideration of each of them individually, as the salience of how student-athletes identify with the rewards and recognition associated with athletic participation (public athletic identity), as well as their intrinsic connections to athletics (private athletic identity), may have different associations. Consideration of the two dimensions of athletic identity provides clarity about how these aspects of identity can influence career development.

Operationally, Nasco and Webb (2006) note that these dimensions do not exist at opposite ends of a continuum, as student-athletes may have high levels of both public and private identity. As such, the findings in the present study suggest that private and public identity are distinct concepts, and that each has a distinct relationship with career adaptability. The use of Nasco and Webb's view of the private and public dimensions of athletic identity in future research on student-athletes provides a more complete view of the construct and may provide greater insight than previous measures.

Another implication for theory that emerged from this study is the connection between academic motivation and career adaptability. Within the literature related to student-athletes, academic motivation as a construct is often limited to its association with academic achievement. While this relationship has been well documented, this study demonstrates that this academic motivation has utility beyond academic achievement and may influence other aspects of student-athlete's personal development. Consideration of academic motivation and its relationship to educational constructs and outcomes, such as classroom engagement, social and academic integration, sense of belonging, civic engagement, self-directed learning, and other measures of career development, may provide new directions for understanding factors that influence the development of student-athletes.

### **Implications for Policy**

As the governing body for intercollegiate athletics, the NCAA creates policies to “govern competition in a fair, safe, equitable and sportsmanlike manner, and to integrate intercollegiate athletics into higher education so that the educational experience of the student-athlete is paramount” (NCAA, 2004, p. 3). The NCAA has enacted policies to increase graduation rates of student-athletes, such as raising requirements for initial eligibility to compete in Division I athletics, as well as outlining degree progress standards for continued eligibility. For example, student-athletes must complete 40 percent of their degree requirements by the third year of enrollment, 60 percent by the fourth year of enrollment, and 80 percent by the fifth year of enrollment (NCAA, 2017b).

Previously, the requirement to compete was a satisfactory grade point average and there were no stated expectations regarding degree progress.

The NCAA requires that Division I institutions provide personal and career development programming for their student-athletes. While there is an emerging national interest in student-athletes' career development, there are no specific requirements or benchmarks to measure such programming. The NCAA has a responsibility to exercise leadership in this area by provide specific expectations and guidance to institutions for effective career development programming. These guidelines should be grounded in empirical research and best practices.

Although the NCAA has policies regarding the amount of time student-athletes can spend on sport activities throughout the week, the NCAA's (2015) research indicates that student-athletes routinely exceed the amount of time they are allowed to dedicate to their sport. As the findings in this study indicate that role balance is positively associated with student-athletes' career adaptability, the NCAA must increase enforcement of its regulations to ensure compliance by member institutions and support student-athletes' development and welfare. By reducing the median hours spent on sport related activities to the maximum permitted under NCAA guidelines, student-athletes will have more time to devote to academic coursework, personal development, co-curricular activities, relationships, and physical recovery.

In addition, institutional athletic departments should be mindful of their expectations of student-athletes and media attention, as the results from this study indicate that high levels of public athletic identity are negatively associated with career

adaptability skills. Athletic departments should develop policies that ensure the promotion of both the athletic and academic aspects of student-athletes. Media training, promotional videos, press conferences after competition, and photo shoots are often a necessary expectation for student-athletes with promoting their sports. Athletic departments should be mindful of how much attention is given in their promotional efforts to public recognition of student-athletes and their sport performance, and how little is given to the academic side of the student-athlete.

For example, upon reviewing the social media feeds for several teams at the University of Minnesota during the Fall 2016 semester, I observed different cultures presented among the various teams. The Gopher women's volleyball team had a successful athletic season, for several weeks was ranked #1 in the nation and competed in the national Final Four championship tournament. Within the team's Twitter feed, there was regular promotion of the academic accomplishments of their student-athletes and other aspects of the life of a student-athlete. The night before the #1 ranked Gophers played the #15 Pennsylvania State University Nittany Lions, social media posts included pictures of student-athletes engaged in academic coursework, with multiple laptops and textbooks sprawled around a hotel room. Through purposeful messaging that values both the student and athletic aspects of its sports teams, athletic departments can convey to the public, athletic department staff, and student-athletes the importance of the student role, and better reflect its espoused values of athletic and academic success.

### **Implications for Practice**

In addition to the implications for theory and policy, the findings in this study provide several implications for practice. There are many specialists in both the athletic department and across campus who are involved in the educational experience of Division I student-athletes, but it is often left to athletic advisors to provide support for student-athletes. This approach is insufficient. As the findings in this study demonstrate, athletic identity and athletic demands are related to student-athletes' career development. It is imperative that coaches, advisors in both academic units and the athletic department, campus career professionals, student-athlete welfare staff, learning specialists, and administrators develop a comprehensive approach to student-athlete development that considers practical applications and is based upon empirical research and best practice.

While career adaptability can and should be developed through tailored programming, the results of this study support additional avenues beyond career programming to build career competencies. Three strategies to foster student-athletes' career competence include: supporting student-athletes' intrinsic connections to their sport participation, enhancing academic motivation for student-athletes with low levels of academic motivation, and helping student-athletes to develop skills to manage their obligations and achieve academic and athletic success.

Particular attention should also be directed to sub-populations of student-athletes who might be best served through additional resources. As noted in the results of this study, student-athletes who participate in high-profile sports may over-identify with the public aspects of athletic identity. To enhance private athletic identity, coaches can

periodically incorporate strategies into their practices and workouts to reduce potential stress and burnout associated with athletic performance, and foster student-athletes' enjoyment of sport participation. Strategies can include altering the routine in practice, such as swimmers cross-training with water polo, an activity that builds similar muscle groups as swimming and reduces the pressure to constantly compete with teammates in practice. Other options include designing activities that create a relaxed athletic environment or provide amusement, such as revisiting soccer drills typically used with small children or substituting pumpkins for kickboards in the pool.

Student-athletes experience similar college transition issues to that of their non-athlete peers; however, student-athletes have an added pressure of navigating a new athletic environment. This transition can be particularly difficult, as there are increased demands both in the classroom and for their sport participation. Some student-athletes may experience a large academic adjustment, learning to study for the first time, while others adjust to the increased physical and mental demands of more time spent on sport each day. Many student-athletes arrive on campus as strong students with a desire to excel in the classroom. It is important that student-athletes' academic motivation remain high, so they direct the appropriate effort towards achieving academic success.

Although a student-athlete's academic motivation may be inferred through pre-college academic qualifications, there is benefit to assessing the academic motivation through an instrument such as Gaston-Gayles (2004) SAMSAQ. Distributing such an assessment to all incoming student-athletes will help identify those student-athletes who have low levels of academic motivation, and strategies can be designed support their

needs. Learning specialists can help student-athletes to build foundational academic skills early, and group programming can be extended to those student-athletes who may benefit from strategies to build academic success. In addition, coaches and athletic advisors will know which student-athletes would benefit from increased attention or emphasis on their academic progress and effort.

Some highly-resourced athletic departments have added sports psychologists to their support services staff. While some of this work has focused on improving sport performance, it is important that sports psychologists also assist student-athletes in their identity development, motivation, and their coping strategies to manage the demands of academic and athletic responsibilities. The often-competing roles of student and athlete can be considerably challenging to balance and, while many student-athletes become skilled at navigating the obligations and demands of both roles, others do not. As previous research indicates, greater attention to student-athletes' mental health and well-being is necessary. Role balance was found to be positively associated with student-athletes' career adaptability in this study. Educational or group sessions about mindfulness, relaxation techniques, or other mechanisms to reduce stress and build mental strength may be particularly helpful. In addition, coaches and other athletic professionals who have regular contact with student-athletes should watch for signs of distress and refer such student-athletes for individual counseling support.

An unexpected finding in this study is that student-athletes who aspire to continue to compete in their sport after college have higher levels of career adaptability and its related dimensions. Although few student-athletes will compete in their sport after

college, there are more “professional” opportunities with financial compensation than a decade ago. For example, Courtney Thompson, a volleyball player at the University of Washington, graduated in 2006 and began a position playing professional volleyball. Her career volleyball career would take her to professional clubs in Puerto Rico, Poland, Switzerland and Brazil over the next 10 years, while playing for the United States in the 2012 and 2016 Olympics (Hamann & Hamann, 2015). Compensation is often modest compared to that of opportunities in the high-profile sports. Student-athletes who continue to compete after college can earn salaries comparable to those earned in other entry-level post-college positions.

As the data demonstrate, there is a strong interest among student-athletes in continuing to compete. While these plans may not be realistic, it is important to consider how to leverage student-athletes’ interest in continuing to compete in their sport and help them understand how their skills can apply to other settings when they transition to employment other than competing in sport. While the public and campus administrators often focus on the unrealistic expectations, it is useful to ponder whether these plans are all that different from those of the undergraduate biology students who expect to go on to medical school. These expectations are somewhat similar to those of students-athletes, and the approach in career counseling is typically to provide information and coaching to help students assess their skills, identify gaps in their preparation, and consider how to demonstrate their strengths.

As research demonstrates, student-athletes are less likely to seek help if professionals do not appreciate their needs and circumstances (Watson, 2005), and may



not seek assistance if they continually receive negative or unsupportive messages about their future. Perhaps a more effective approach is to support student-athletes with both the pursuit of professional sports and the translation of their skills to other settings for when they transition to other employment. Programs can be designed to support graduating student-athletes with both their athletic and post-athletic goals, to help them understand the competencies they possess that apply to the working world. In addition, programs can be designed to work with recent student-athlete alumni, as some may need extra assistance in their career search, while others who are able to play their sport for a year or two after college may be ready to transition beyond sport competition.

Career adaptability, the dependent variable in this study, is “the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions” (Savickas, 1997, p. 254). These skills and competencies include planning, decision-making, exploring, and problem-solving, and the college environment provides many opportunities to foster these skills, including intercollegiate athletics participation. While student-athletes develop these skills throughout their college experience, career programming is essential. Such programming should be based in reflection, helping student-athletes to identify and assess the skills they possess, and, most importantly, how to communicate those skills to others. Reflective writing activities can serve as the basis for helping student-athletes to translate these skills as they create resumes and prepare to answer interview questions. In addition, as female student-athletes perceived their career

competencies at lower levels compared to males in this study, particular outreach to female student-athletes might be beneficial.

As career services professionals develop relationships with employers, it is important that they consider student-athletes in their outreach. Over 40 percent of Division I student-athletes are interested in working in a non-playing position in the sports industry after graduation (NCAA, 2015). Cultivating relationships with sport industry organizations such as professional teams, sports authorities, sports event planning organizations, sports apparel, stadiums and other venues, would benefit the employment possibilities for both student-athletes and the general student body. There are also organizations that are particularly interested in recruiting student-athletes, such as NASCAR, which recruits former student-athletes for pit crews (Echlin, 2016). NASCAR notes that student-athletes have valuable skills such as their physical strength, ability to perform in high-pressure situations, hand-eye coordination, experience studying video-tapes to improve performance, and comfort with critical feedback. Financial compensation for NASCAR pit crew employees can be over \$100,000.

The findings from this study also indicate that career confidence is greater among student-athletes who are preparing for graduation. Programming can be structured through a developmental model of the competencies most appropriate and relevant to student-athletes at various stages of their athletic and academic careers. For example, researching industries and corporations and other job-searching skills may be most appropriate for student-athletes in their last year of college. These services should also be offered in collaboration with and situated in campus career centers, so that student-

athletes become acquainted with career staff and resources. Through educating campus career counselors about student-athletes concerns and needs, partnerships can be created between career services professionals and those in the athletic department to offer programming that is timely and relevant. In addition, as student-athletes acquire greater familiarity with the resources offered in campus career centers, they will be more likely to seek them out.

### **Limitations**

Although this study was conducted across multiple Division I institutions and yielded a relatively robust sample size, there are limitations to the study. The first limitation concerns the sample of student-athletes. Career competencies are generally thought to increase over time. In addition, the academic demands and athletic obligations tend to become more manageable with experience. As the participants in this study are primarily freshman and sophomores, a greater proportion of juniors and seniors in the sample might yield different results.

The student-athletes in this sample are predominately from privileged environments, as 85 percent indicate a middle class, upper middle class, or wealthy background, and 80 percent have a parent with a college or graduate degree. As environments with higher levels of socioeconomic status and parental education may place considerable emphasis on academic achievement, it is difficult to know if the results in this study are representative of Division I student-athletes. In addition, the student-athletes in this sample have high levels of academic achievement, as 75 percent

indicate having a grade point average of 3.0 or higher. While grade point average was removed from the final regression model, academic motivation is positively correlated with academic achievement. Student-athletes were not asked to identify their academic major, which may also influence the findings, as student-athletes in highly competitive academic majors might differ from those in less competitive majors.

In addition, although the results indicate high levels of career competence, student-athletes were not asked to identify their career plans, so it is unknown what career aspirations they currently hold and whether those plans are realistic. Student-athletes in this study self-reported their career competency levels; their personal assessments may not accurately reflect their actual skill level. Student-athletes self-selected to participate in this study and it is difficult to know whether the participants and their self-reported answers are representative of the population of Division I student-athletes. The study was conducted at six Division I institutions, the highest level of athletic participation. As the Division I athletics environment tends to have the greatest emphasis on athletics, the findings may not be generalizable across levels of intercollegiate athletics. In addition, while there are Historically Black Colleges and Universities that participate in Division I athletics, this institutional type was not represented in the sample. The results of this study might not be reflective of all Division I institutions.

### **Directions for Future Research**

To advance scholarship on student-athletes' career development, there are a number of directions for future research. First, as academic major is not included in this study, replicating this study to consider academic major's relationship to the dependent variable and other variables of interest may provide greater insight. Student-athletes in highly competitive majors may differ from those in less competitive majors, and accounting for these potential differences may provide quantitative evidence to determine the accuracy of a commonly-held belief that student-athletes in less competitive majors are less engaged students. As I was conducting this study, a student-athlete who participated also suggested this variable as potentially influential.

In addition, student-athletes' career intentions other than professional sport aspirations were not assessed as part of this study, nor was their engagement in specific career planning behaviors. Learning more about how the variables used in this study relate to student-athletes' career intentions, as well as the actual career-planning behaviors they have engaged, would provide valuable understanding about which programming efforts are most successful.

Also, as Adler and Adler's (1987; 1991) seminal work to understand the experiences of student-athletes was conducted prior to a series of significant academic reforms within intercollegiate athletics, a longitudinal study of student-athletes' development is necessary. The researchers' findings revealed that over time the athletic role becomes most salient and a declining interest in academic success reinforced many of negative outcomes of intercollegiate athletics. With the increased academic progress

standards required to participate in intercollegiate athletics and improved degree progress and graduation rates of student-athletes, the Division I athletics environment is significantly different than during the time of Adler and Adler's study. A longitudinal, qualitative study could yield considerable knowledge of student-athletes development across the academic, personal, career, and athletic domains.

### **Conclusion**

While public interest in intercollegiate athletics is often directed towards the bright lights of competition, Cinderella tales of tournament glory, and incredible displays of athletic talent, the athletic contest is but one dimension of the student-athlete experience. As the popular press creates the narrative of the college athlete, the main character is usually one who combines the pursuit of athletic fame and fortune with academic deficiency, a constant struggle to remain eligible to compete. This picture rarely frames the college athlete as future societal contributor – one with a history of academic achievement, seeking a brighter future by earning a college degree, developing competencies that translate into productive employment, and engaging in experiences that prepare one for the complexity of life.

Although there are student-athletes for whom college attendance is a mechanism to continue to compete, perhaps solely for an athletic future, this singular focus is the exception. Of the 480,000 NCAA student-athletes, most seek academic accomplishments parallel to the success they seek in their sport. For many, athletic participation is about continuing something they enjoy and may be particularly skilled at, and a critical aspect

of who they are. As Emily Layden (2012), former Division I student-athlete, notes “the devotion is no different than that had by any other artist – a concert pianist, a writer, a researcher: It is a commitment to our talents; a refusal to let them go to waste” (par. 4).

For most Division I student-athletes, their academic and athletic devotion foster competencies that are critical for their personal development and establish a foundation for their future societal contributions.

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## Appendix A

### University of Minnesota Institutional Review Board Approval

From: <[irb@umn.edu](mailto:irb@umn.edu)>  
Date: Mon, Aug 31, 2015 at 2:33 PM  
Subject: 1506E74244 - PI Letawsky Shultz - IRB - Exempt Study Notification  
To: [nlshultz@umn.edu](mailto:nlshultz@umn.edu)

TO : [mand@umn.edu](mailto:mand@umn.edu), [nlshultz@umn.edu](mailto:nlshultz@umn.edu),

The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2 SURVEYS/INTERVIEWS; STANDARDIZED EDUCATIONAL TESTS; OBSERVATION OF PUBLIC BEHAVIOR.

**Study Number:** 1506E74244

**Principal Investigator:** Nikki Letawsky Shultz

**Title(s):**

Athletic Identity, Academic Motivation, and Role Conflict: Factors that Influence the Career Adaptability of Division I Student-Athletes

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## Appendix B

### Student-Athlete Development Questionnaire

#### Student-Athlete Career Development Questionnaire

Thank you for agreeing to participate in the Student-Athlete Career Development Questionnaire. The purpose of this survey is to assess your athletic identity, academic motivation, role conflict, and career adaptability at this point in time in your career as a student-athlete. Your honest responses to the statements in this survey will us better understand your expectations and experiences as a student-athlete.

Read each statement carefully. For each section, indicate your answer on the scale with a “√” in the appropriate box across from each statement. Your responses to items on this survey will be kept confidential. Thank you again for your participation and honesty in completing this survey!

**Section 1:** For the next 10 questions, indicate on the scale from (SD) strongly disagree to (SA) strongly agree which most closely relates to your personal thoughts, feelings and experiences.

Item	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
a. Athletics help me express my emotions and feelings.					
b. It is very important for me to succeed at my sport.					
c. My popularity with others is related to my athletic ability.					
d. I obtain personal satisfaction from participating in athletics.					
e. I only participate in sports because I am good at them.					
f. I often fear people will not like me as much if I do not compete well.					
g. My primary reason for competing in my sport is receiving awards and recognition.					
h. Being an athlete is an important part of who I am.					
i. I fear not receiving the recognition and attention I get from being an athlete when I retire or finish competing.					
j. I would feel a great sense of loss if I suddenly were unable to participate in my sport.					



**Section 2:** Different people use different strengths to build their careers. No one is good at everything, each of us emphasizes some strengths more than others. Please rate how strongly you have developed each of the following abilities using the scale below.

Item	Strongest	Very Strong	Strong	Somewhat Strong	Not Strong
a. Thinking about what my future will be like					
b. Realizing that today's choices shape my future					
c. Preparing for the future					
d. Becoming aware of the educational and vocational choices that I must make					
e. Planning how to achieve my goals					
f. Concerned about my career					
g. Keeping upbeat					
h. Making decisions by myself					
i. Taking responsibility for my actions					
j. Sticking up for my beliefs					
k. Counting on myself					
l. Doing what's right for me					
m. Exploring my surroundings					
n. Looking for opportunities to grow					
o. Investigating options before making a choice					
p. Observing different ways of doing things					
q. Probing deeply into questions that I have					
r. Becoming curious about new opportunities					
S. Performing tasks efficiently					
t. Taking care to do things well					
u. Working up to my ability					
v. Overcoming obstacles					
w. Solving problems					

**Section 3:** Read each statement carefully. Indicate the extent to which you agree with each statement by circling the option that most closely relates to your personal thoughts, feelings and experiences.

Item	Very Strongly Agree	Strongly Agree	Agree	Disagree	Strongly Disagree	Very Strongly Disagree
a. I am confident that I can achieve a high grade point average this year (3.0 or above).						
b. It is important to me to learn what is taught in my courses.						
c. I am willing to put in the time to earn excellent grades in my courses.						
d. The most important reason why I am in school is to play my sport.						
e. I will be able to use what is taught in my courses in different aspects of my life outside of school.						
f. I chose (or will choose) my major because it is something I am interested in as a career.						
g. Earning a high grade point average (3.0 or above) is not an important goal for me this year.						
h. I get more satisfaction from earning an "A" in a course toward my major than winning a game in my sport.						
i. During the years I compete in my sport, completing a college degree is not a goal for me.						
j. I have some doubt about my ability to earn high grades in some of my courses.						
k. I am confident that I can earn a college degree.						
l. I get more satisfaction from winning a game in my sport than from getting an "A" in a course toward my major.						
m. It is not important for me to perform better than other students in my courses.						
n. The content of most of my courses is interesting to me.						
o. The most important reason why I am in school is to earn a degree.						
p. It is not worth the effort to earn excellent grades in my courses.						

**Section 4:**

Read each statement carefully. Indicate the extent to which you agree or disagree with each statement by circling the option that most closely relates to your personal thoughts, feelings and experiences.

Item	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
a. I can meet both my athletic and academic obligations during the athletic season.					
b. I am able to study as much as I need to succeed in my academic coursework during the athletic season.					
c. Sometimes I think I can't handle being both an athlete and a student.					
d. Participation in my sport interferes with my progress towards earning a college degree.					
e. I am able to participate in opportunities such as research, internships, and student organizations that are important for my academic major during the athletic season.					
f. I am able to dedicate as much of my time as necessary to perform well in my sport during the academic year.					
g. I have withdrawn from a course because my athletic obligations interfered with my academic success.					
h. The amount of work required in my courses interferes with my athletic goals.					
i. I am able to participate in all of the opportunities (such as weight-training and viewing competition videos) that are important for my athletic performance during the academic year.					
j. The major I am pursuing makes it difficult to devote the amount of time I need to achieve excellence in my sport.					

**Section 5:**

a. What is your gender/sex? (check one)

- ☐ Female  
☐ Male

b. Race/ethnicity:

- ☐ Asian American/Pacific Islander  
☐ Black  
☐ Caucasian  
☐ Hispanic/Latin American  
☐ International  
☐ Multi-racial  
☐ Native American  
☐ Other

c. Cumulative GPA range:

- ☐ 3.5-4.0  
☐ 3.0-3.49  
☐ 2.5-2.99  
☐ 2.0-2.49  
☐ 1.5-1.99  
☐ 1.0-1.49  
☐ Below 1.0

d. What is your year in school?

- ☐ Freshman  
☐ Sophomore  
☐ Junior  
☐ Senior  
☐ 5<sup>th</sup> year senior or beyond  
☐ Graduate student

e. Do you currently receive an athletic scholarship?

- ☐ No (Skip to Question 7)  
☐ Yes

f. If you receive an athletic scholarship is it a ☐ full athletic scholarship or  
☐ partial athletic scholarship

g. Do you plan to continue to pursue your sport at the professional, Olympic, or world level after college?

- ☐ No  
☐ Probably No  
☐ Probably Yes  
☐ Yes

(list is customized to intercollegiate athletics sports at each institution)

h. Please check the intercollegiate sport(s) in which you have participated in college.

- |   |  |
|---|--|
| <input type="checkbox"/> Men's baseball             | <input type="checkbox"/> Women's basketball        |
| <input type="checkbox"/> Men's basketball           | <input type="checkbox"/> Women's cross country     |
| <input type="checkbox"/> Men's cross country        | <input type="checkbox"/> Women's equestrian        |
| <input type="checkbox"/> Men's football             | <input type="checkbox"/> Women's fencing           |
| <input type="checkbox"/> Men's golf                 | <input type="checkbox"/> Women's field hockey      |
| <input type="checkbox"/> Men's gymnastics           | <input type="checkbox"/> Women's golf              |
| <input type="checkbox"/> Men's ice hockey           | <input type="checkbox"/> Women's gymnastics        |
| <input type="checkbox"/> Men's lacrosse             | <input type="checkbox"/> Women's ice hockey        |
| <input type="checkbox"/> Men's Nordic skiing        | <input type="checkbox"/> Women's lacrosse          |
| <input type="checkbox"/> Men's polo                 | <input type="checkbox"/> Women's Nordic skiing     |
| <input type="checkbox"/> Men's rowing - heavyweight | <input type="checkbox"/> Women's polo              |
| <input type="checkbox"/> Men's rowing - lightweight | <input type="checkbox"/> Women's rowing            |
| <input type="checkbox"/> Men's soccer               | <input type="checkbox"/> Women's sailing           |
| <input type="checkbox"/> Men's sprint football      | <input type="checkbox"/> Women's soccer            |
| <input type="checkbox"/> Men's squash               | <input type="checkbox"/> Women's softball          |
| <input type="checkbox"/> Men's swimming & diving    | <input type="checkbox"/> Women's squash            |
| <input type="checkbox"/> Men's tennis               | <input type="checkbox"/> Women's swimming & diving |
| <input type="checkbox"/> Men's track & field        | <input type="checkbox"/> Women's tennis            |
| <input type="checkbox"/> Men's wrestling            | <input type="checkbox"/> Women's track & field     |
|   | <input type="checkbox"/> Women's volleyball        |

i. Before you started to play intercollegiate athletics, were you a

- ☐ Recruited student-athlete  
☐ Walk-on student-athlete

j. Is English your first language?

- ☐ No  
☐ Yes

k. Are you an international student (in the USA on a student/scholar visa)?

- ☐ No  
☐ Yes

l. How would you describe your socioeconomic background?

- ☐ Wealthy  
☐ Upper-middle or professional-middle  
☐ Middle-class  
☐ Working-class  
☐ Low-income or poor

m. What is the highest level of education that any of your parents/guardians attained?

\_\_\_\_\_ Attended high school but did not graduate

\_\_\_\_\_ High school graduate

\_\_\_\_\_ Attended college but did not graduate

\_\_\_\_\_ College degree

\_\_\_\_\_ Graduate or professional degree

Appendix C: Correlation Matrix

	1	2	3	4	5	6	7
<b>Career Adaptability</b>							
1. Concern	1.000***						
2. Control	.603***	1.000***					
3. Curiosity	.543***	.574***	1.000***				
4. Confidence	.587***	.631***	.579***	1.000***			
5. Adaptability	.826***	.838***	.829***	.826***	1.000***		
<b>Athletic Identity</b>							
6. Public	.054	-.056	.038	-.066	-.003	1.000***	
7. Private	.153***	.255***	.197***	.262***	.258***	.104**	1.000***
<b>Academic Motivation</b>							
8. Low academic motivation	-.079*	-.041	-.004	-.141***	-.075	.216***	-.054
9. High academic motivation	.310***	.263***	.265***	.362***	.359***	-.106**	.180***
10. Sport focused	-.055	.086*	.061	-.002	.028	.156***	.293***
<b>Role Conflict</b>							
11. Balanced	.265***	.220***	.238***	.250***	.294***	-.042	.208***
12. Unbalanced	-.039	-.084*	-.021	-.124**	-.075	.282***	-.133**
<b>Individual Characteristics</b>							
13. Female	-.042	-.130**	-.124**	-.078*	-.113**	-.107**	-.108**
14. Asian/Pacific Islander	-.013	.020	-.030	.025	-.002	.050	-.007
15. Black	.089*	.045	.125**	-.025	.077*	.083*	-.046
16. White	-.091*	-.063	-.129**	.019	-.086*	-.085*	.024

Significance levels: \*: p<.05; \*\*: p<.01; \*\*\*: p<.001

Appendix C: Correlation Matrix (continued)

	1	2	3	4	5	6	7
17. Hispanic/Latin American	.071	.035	.072	.021	.062	-.015	.010
18. International	-.054	-.030	-.035	-.060	-.054	-.044	.081*
19. Multi-racial	.024	.024	.024	-.007	.021	-.014	-.021
20. Native American	-.003	-.016	-.044	-.034	-.030	.022	-.004
21. Other race/ethnicity	.016	.038	.053	.041	.045	.084*	-.011
22. Cumulative grade point average	-.004	-.065	-.072	.068	-.026	-.116**	.015
23. Year in School	.080*	.074	.042	.099*	.088*	-.089*	-.059
24. Athletic scholarship	.048	.006	.086*	-.030	.039	.175***	-.009
25. Professional aspirations	.119**	.195***	.174***	.100*	.178***	.196***	.248***
26. High-profile sport	.079*	.049	.063	-.008	.058	.064	-.117**
27. Recruited student-athlete	-.006	-.004	-.008	.000	-.002	-.052	-.104**
28. Non-native English speaker	.042	.029	.085*	-.031	.043	.054	.067
29. International student	-.109**	-.111**	-.042	-.096*	-.105**	.059	-.009
30. Socioeconomic status	-.016	-.085*	-.042	.011	-.041	-.059	-.004
31. Parental education level	-.017	-.051	-.060	-.023	-.046	-.123**	-.020
32. Institution 1	.024	-.050	-.041	-.046	-.033	.056	-.162***
33. Institution 2	-.074	-.069	-.056	.042	-.052	-.164***	.032
34. Institution 3	-.096*	-.088*	-.050	-.113**	-.103**	.030	.033
35. Institution 4	-.071	-.023	-.031	-.038	-.048	.037	.068
36. Institution 5	.167***	.193***	.165***	.148***	-.203***	.081*	.134**
37. Institution 6	.027	.047	.017	-.012	-.025	-.066	-.065

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$



## Appendix C: Correlation Matrix (continued)

	8	9	10	11	12	13	14
<b>Academic Motivation</b>							
8. Low academic motivation	1.000***						
9. High academic motivation	-.392***	1.000***					
10. Sport focused	.351***	-.380***	1.000***				
<b>Role Conflict</b>							
11. Balanced	-.065	.352***	-.035	1.000***			
12. Unbalanced	.432***	-.178***	.067	-.339***	1.000***		
<b>Individual Characteristics</b>							
13. Female	-.228***	.217***	-.346***	-.043	-.022	1.000***	
14. Asian/Pacific Islander	-.017	.016	-.028	.005	-.044	.041	1.000***
15. Black	.162***	-.117***	.019	.034	.097*	-.167***	-.064
16. White	-.194***	.131**	-.045	-.068	-.104**	.107**	-.195**
17. Hispanic/Latin American	-.005	-.030	.050	.055	.024	.046	-.025
18. International	.030	-.028	.109**	.035	-.029	.020	-.018
19. Multi-racial	.087*	-.034	-.045	.010	.038	.002	-.043
20. Native American	.045	-.035	.014	-.020	.011	.005	-.011
21. Other race/ethnicity	.047	.007	.045	.040	.053	-.049	-.016
22. Cumulative grade point average	-.475***	.471***	-.274***	.109**	-.239***	.266***	-.045
23. Year in School	-.019	-.031	.019	-.024	-.057	-.065	.003
24. Athletic scholarship	.197***	-.129**	.227***	-.020	.180***	.020	-.130**
25. Professional aspirations	.243***	-.164***	.456***	.051	.098*	-.371***	.002
26. High-profile sport	.186***	-.151***	.148***	-.019	.138***	-.325***	-.072

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Appendix C: Correlation Matrix (continued)

	8	9	10	11	12	13	14
27. Recruited student-athlete	-.094*	.070	-.186***	.062	-.111**	.023	.080*
28. Non-native English speaker	.089*	-.013	.090*	.045	.010	-.030	.011
29. International student	.067	-.070	.119**	-.006	.004	.048	-.050
30. Socioeconomic status	-.253***	.146***	-.211***	-.009	-.090*	.164***	.001
31. Parental education level	-.231***	.154***	-.184***	-.038	-.097*	.126**	.086*
32. Institution 1	.019	-.032	-.001	-.124**	.120**	-.012	-.061
33. Institution 2	-.098*	.010	-.113**	-.014	-.161***	.018	.142***
34. Institution 3	-.019	-.113**	.070	-.072	.043	-.064	-.003
35. Institution 4	.013	.057	.070	-.018	.001	-.087*	-.031
36. Institution 5	.080*	.160***	.006	.221***	.021	.121**	-.002
37. Institution 6	-.004*	-.020	-.017	.038	-.067	.017	-.040

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Appendix C: Correlation Matrix (continued)

	15	16	17	18	19	20	21
15. Black	1.000***						
16. White	-.623***	1.000***					
17. Hispanic/Latin American	-.080*	-.244***	1.000***				
18. International	-.059	-.179***	-.023	1.000***			
19. Multi-racial	-.139***	-.423***	-.054	-.040	1.000***		
20. Native American	-.035	-.108**	-.014	-.010	-.024	1.000***	
21. Other race/ethnicity	-.050	-.153***	-.020	-.014	-.034	-.009	1.000***
22. Cumulative grade point average	-.275***	.302***	-.026	-.025	-.071	-.020	-.058
23. Year in School	.006	.015	-.034	-.110**	.039	-.015	-.021
24. Athletic scholarship	.281***	-.248***	.032	.084*	-.005	.102	.075
25. Professional aspirations	.263***	-.275***	-.003	.095*	.037	.020	.086*
26. High-profile sport	.376***	-.265***	-.090*	-.066	.029	.105**	.046
27. Recruited student-athlete	-.050	.063	-.034	-.028	-.012	-.036	-.051
28. Non-native English speaker	.037	-.240***	.284***	.260***	.032	-.020	-.029
29. International student	-.032	-.143***	-.009	.361***	.090*	.033	.046
30. Socioeconomic status	-.255***	.257***	-.010	.023	-.049	-.027	-.117**
31. Parental education level	-.143***	.101*	.064	-.036	-.017	.052	-.136**
32. Institution 1	.090*	-.100*	.052	.001	.017	.104**	.004
33. Institution 2	-.126**	.059	-.008	-.058	.066	-.035	-.049
34. Institution 3	-.004	.045	-.021	.047	-.073	-.023	.017
35. Institution 4	-.073	.060	.045	.041	-.044	-.034	-.010

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Appendix C: Correlation Matrix (continued)

	15	16	17	18	19	20	21
36. Institution 5	.047	-.007	-.052	-.056	.014	-.034	.028
37. Institution 6	.054	-.021	-.050	.052	-.006	-.022	.021

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Appendix C: Correlation Matrix (continued)

	22	23	24	25	26	27	28
22. Cumulative grade point average	1.000***						
23. Year in School	.027	1.000***					
24. Athletic scholarship	-.178***	.020	1.000***				
25. Professional aspirations	-.307	.013	.324***	1.000***			
26. High-profile sport	-.261***	.086*	.364***	.295***	1.000***		
27. Recruited student-athlete	.032	.053	-.400***	-.165***	.024	1.000***	
28. Non-native English speaker	-.014	-.020	.081*	.087*	-.071	-.068	1.000***
29. International student	-.015	.014	.232***	.145***	-.081*	-.102**	.280***
30. Socioeconomic status	.282***	-.120**	-.258***	-.250***	-.209***	.076	-.074
31. Parental education level	.266***	.052	-.293***	-.221***	-.197***	.068	-.011
32. Institution 1	-.058	.021	.295***	.130**	.293***	-.006	.004
33. Institution 2	.106**	.077*	-.527***	-.153***	-.158***	.131**	-.065
34. Institution 3	-.126**	-.127**	.050	.048	-.046	-.044	-.009
35. Institution 4	-.075	-.123**	.016	-.084*	-.149***	-.162***	.081*
36. Institution 5	.081*	.120**	.107**	.037	-.007	.012	-.027
37. Institution 6	.077*	-.013	-.007	-.011	-.047	.052	.020

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

Appendix C: Correlation Matrix (continued)

	29	30	31	32	33	34	35
29. International student	1.000***						
30. Socioeconomic status	-.086	1.000***					
31. Parental education level	-.148***	.367***	1.000***				
32. Institution 1	.156***	-.040	-.045	1.000***			
33. Institution 2	-.126**	.196***	.230***	-.334***	1.000***		
34. Institution 3	-.040	-.058	-.094**	-.226***	-.134**	1.000***	
35. Institution 4	-.050	-.002	.029	-.130**	-.193***	-.323***	1.000***
36. Institution 5	.014	-.077*	-.161***	-.131**	-.194***	-.325***	-.187***
37. Institution 6	-.013	-.033	.038	-.086*	-.128**	-.214***	-.123**

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

# Appendix C: Correlation Matrix (continued)

	36	37
36. Institution 5	1.000***	
37. Institution 6	-.124**	1.000***

Significance levels: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$